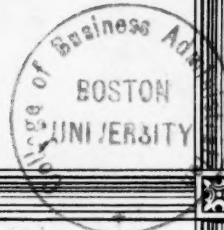


Manufacturers Record

Industry Construction



\$6.50 per Year
Single Copy, 20 Cents

Baltimore, Md.
MARCH 12, 1931

Sustained Construction Activity

Following the gains made in construction activity in the South during the first month of the year, building and engineering contracts awarded in the shorter month of February totaled more than \$43,000,000, with over \$118,000,000 of new work proposed or planned. Building and general construction awards for the first two months of 1931 aggregated more than \$110,000,000.

Because of climatic conditions the South is in a position to take the lead in building activity, and with the opening of spring there should be a steady increase in such work, for low construction costs offer inducements to prospective builders that cannot well be ignored.

Aside from the proposed public construction, in which there are many major projects awaiting completion of plans or the award of contracts, general engineering and industrial building expansion is making a substantial showing. That advantage is being taken of low prices prevailing in the construction field is evident in the announcement last month in the construction columns of the Manufacturers Record of 56 outstanding projects aggregating in value \$156,000,000 and covering almost every type of work. Included in these projects were office buildings, hospitals, the expansion of gas, power and telephone systems, waterworks, rail and bus terminals, piers, rayon plants and bottling plants.

Residence building lags in the South as elsewhere, remaining far below normal requirements for population growth.

Present prices are an inducement to build, and those who build now will have an advantage in investment value over previous building costs, or costs which are likely to prevail at any time in the near future.

The 10 POUND Precast Roof Deck

To the Owner means a permanent, fireproof, no-maintenance roof-deck, whose economy will be more apparent each year of its long life—a trouble-free deck that is in use today on many of the country's most prominent industrial, railroad, utility, and public buildings.

To the Architect and Engineer . . means Haydite concrete slabs with trapped air cells—light weight, which allows them to go on the same light steel frame that carries other roofs—insulating value—economy both in roof-deck and steel—structural strength—the advantage of a perfect base for weather-proof covering—long life without worry or expense to the owner.

To the Contractor means erection of the roof-deck as fast as the structural steel goes up, in any weather and by expert workmen—anywhere around the country—a job finished on time and promptly approved.

"Catalog and Roof Standards" of interest from every angle, available on request.

Featherweight Concrete INSULATING ROOF SLABS

Made, Laid and Guaranteed by

FEDERAL-AMERICAN CEMENT TILE CO.

Executive Offices: 608 South Dearborn Street Chicago
Plants Near CHICAGO . NEW YORK . PITTSBURGH . BIRMINGHAM
FOR OVER A QUARTER CENTURY

Back?

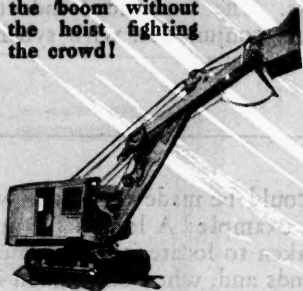
ROCK!

The 25% more digging force at the dipper lip of a Northwest shovel makes possible the handling of 25% harder material! That's why they choose Northwests for hard digging!

Northwest Engineering Company

The world's largest exclusive builders of gasoline, oil burning and electric powered shovels, cranes and draglines
1733 Steger Bldg., 28 E. Jackson Blvd.
Chicago, Ill., U.S.A.

Reach out beyond the boom without the hoist fighting the crowd!



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Atlanta, Ga.

Second at Butler,
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1221 South Lamar Street,
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New Orleans, La.



Walter H. Denison,
Cushman, Ark., handling 4.2 yards of rock in one piece.

THIS IS
PAGE
3

HANDLE
25%
HARDER
DIGGING

*With the Close Quarter
Independent Crowd*

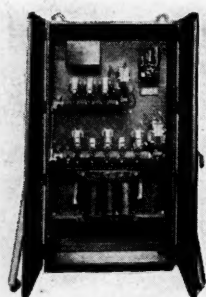
MR 3-12 Gray

NORTHWEST

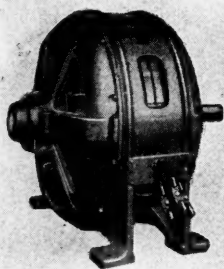
Neglect mending
'twill soon be
[The Sayings of



a small Fault, and
a Great One
Poor Richard]



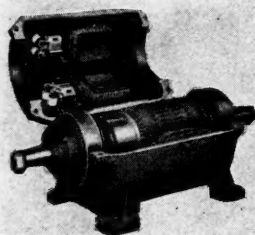
A step in modernization was brought about by the frequent unexplained stopping of a large synchronous motor driving a vital unit in a plant process. Investigation revealed that the too hasty starting of a large induction motor in a remote department caused a voltage dip severe enough to throw the synchronous motor out of step. The substitution of a magnetic controller for the manual controller on the induction motor resulted in uniform starting with minimum voltage disturbance.



Trenches in the snow over buried cables in a mill yard revealed overheating of the distribution system because of low power-factor. The mill power-factor was unity by virtue of a battery of synchronous motors near the substation. Inside circuits with lagging power-factor of 0.72 were improved by substituting, at strategic points, 0.8 leading-power-factor synchronous motors for induction motors. The superseded induction motors were later used, fully loaded and in conjunction with synchronous motors, in an addition to the mill.



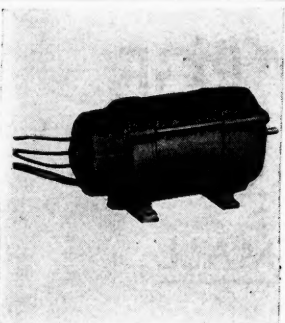
Did you know that a photoelectric tube could be made to do the work of a stop, dog, latch, or cam? Here's an example: A length of pipe is chucked near the middle, no care being taken to locate it. Two motor-driven tool carriages rush in towards the ends and, when one-eighth inch from contact, they slow down to feeding speed. The tools then face and bevel the pipe ends for field welding. The tool carriages act as they do because the pipe intercepts beams of light carried by the carriages. This modern type of cam, dog, etc., involves no maintenance, for a beam of light has no wearing parts.



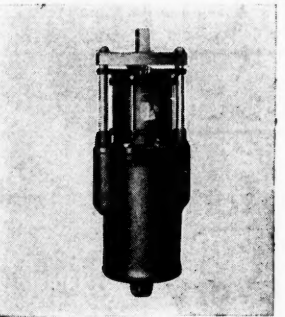
Modern motors designed for quick starts, stops, and reversals, absorb only a small amount of power for their own acceleration, hence leave more for effective work. They are just coming into use for shears, whereon they start, accelerate, execute the work, and stop for each operation. This does away with flywheel and jaw clutch, simplifies the machines, and reduces maintenance. One such machine cuts three 8-in. by 8-in. blooms at a time—fourteen complete cycles per minute. A shear cutting 40-inch-wide material goes through the complete cycle in less than one second. The trend is to let the motor do it.



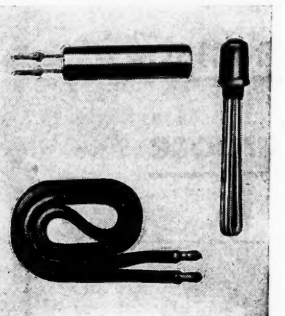
Any manufacturer who still feels that metallic arc welding might not be dependable should take note of the fact that big gun-mounts are being thus fabricated at the Watertown arsenal by the U. S. Government. Modern materials, equipment, and technique have made the arc-welded joint capable of standing any amount of shock duty that the parent metal will stand. Small wonder that manufacturers of machine tools and plant equipment are rapidly changing over their products to arc-welded steel construction and are obtaining a simpler, stronger, lighter, more rigid product with an enhanced appearance that stimulates sales.



The old "layshaft" and other rigid mechanical means for holding related equipment in synchronism while working on a common product are giving away to electric synchronization. Feeders are synchronized with the machines they feed, by Selsyn control, and the units may be any distance apart. To synchronize devices at full speed has never been difficult, but now it is possible to hold many units in absolute synchronism all the way down to dead stop and up again to full speed. This is done on a multiple-unit printing press and so accurately that, if desired, an "i" printed on one unit might be dotted on the next.



Speaking of modernization, have you studied all the possible applications to your equipment of the new G-E thruster? This electric device exerts a smooth, powerful, constant-pressure thrust with cushioned return. On the up stroke, oil is pumped through a piston by a motor-driven impeller. On the down stroke, the piston sinks through a cushion of oil. Some suggested applications are: (1) the smooth, certain application of brakes to hoists. (2) The engaging of clutches on punch presses or shears. (3) The replacement of muscular effort on foot- and hand-operated machines, thus making the machines "all-electric."



In the past, when a machinery builder wished to build heat into his machines, or a plant engineer wished to apply a limited amount of heat to a process, it was necessary to install a steam boiler, or to run complicated fuel pipe lines to the zones to be heated. To-day, a G-E heating specialist is called in and, after studying the requirements, recommends G-E "Spots of Heat"—handy, self-contained, electric heating units which can be immersed, screwed in, built in, or simply attached to the machinery or equipment to provide clean, safe, odorless, precisely controlled electric heat.

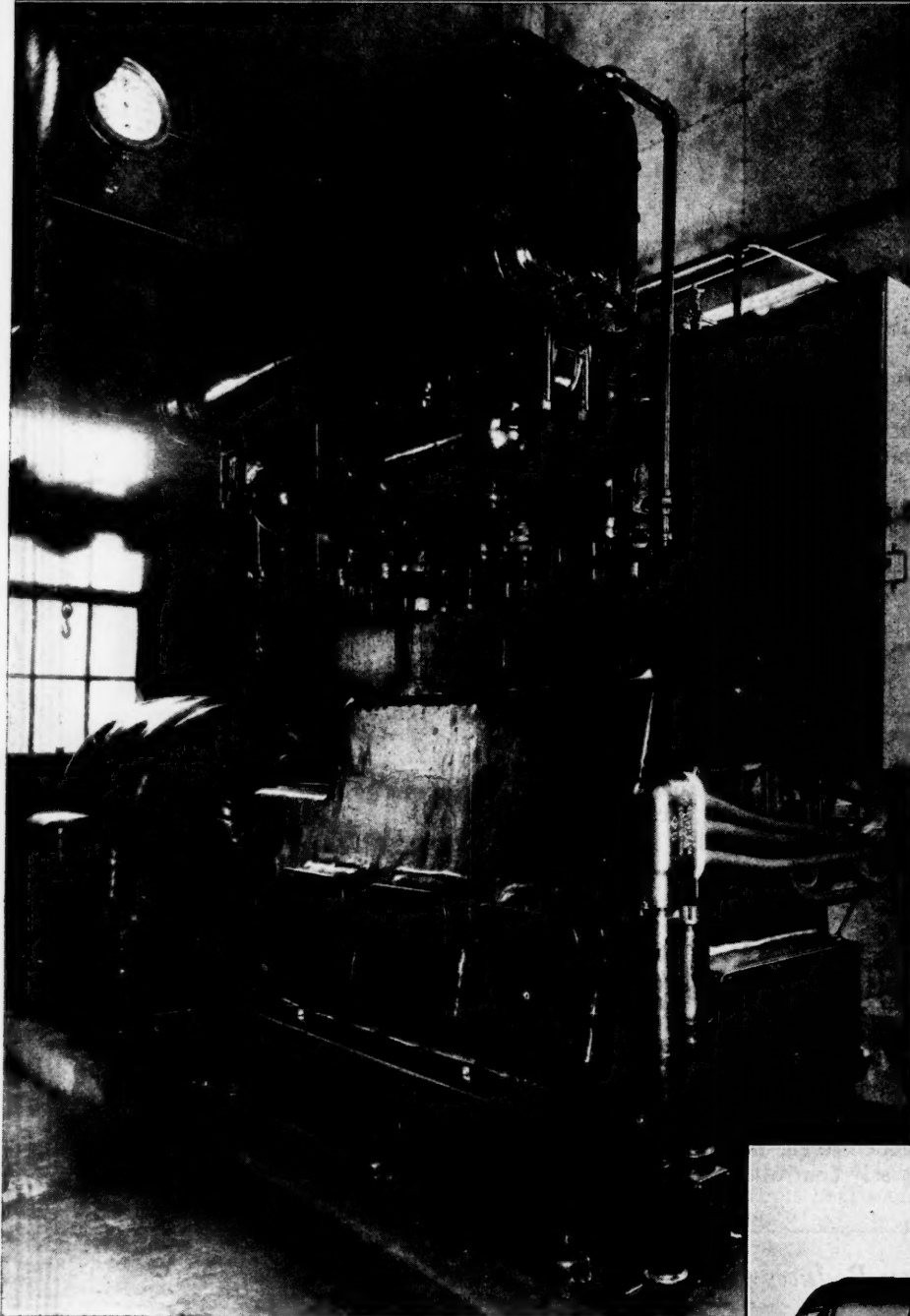
Modernization Reduces Costs—Increases Profit

There are any number of ways in which the G-E sales engineer can help you to modernize. Ask him about them when he calls; or write the nearest G-E office.

GENERAL  ELECTRIC

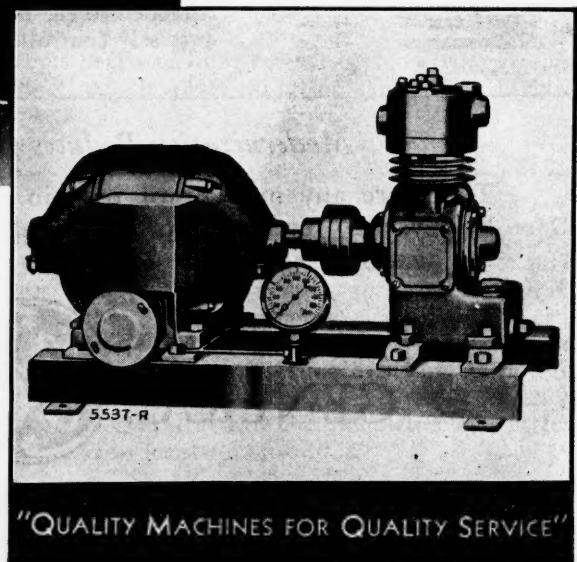
200-463

WESTINGHOUSE-NATIONAL AIR COMPRESSORS

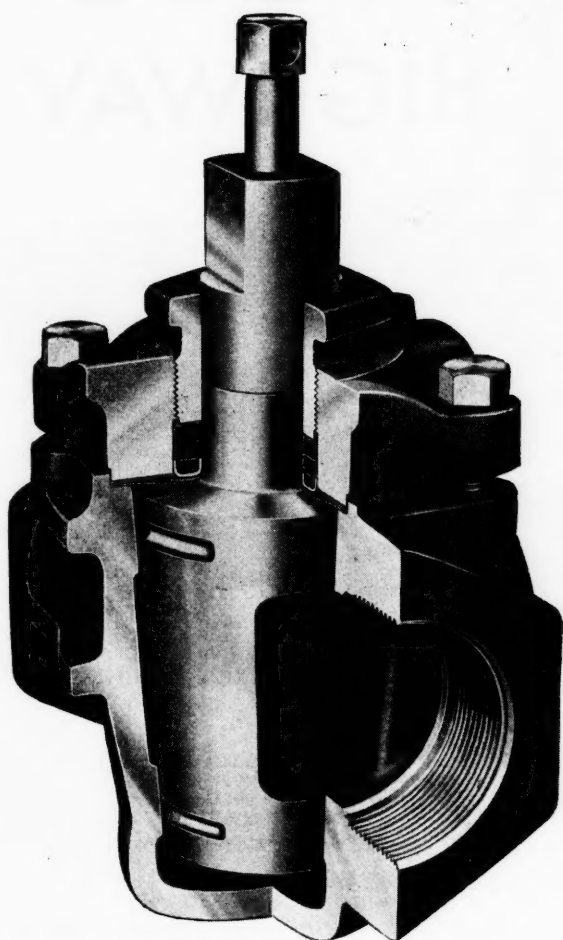


LARGE
and
SMALL
700 Cu. Ft.
2 1-2 Cu. Ft.
for
Every
Pneumatic
Purpose

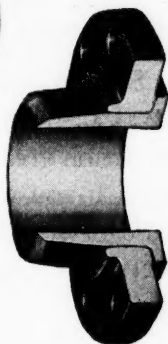
WESTINGHOUSE TRACTION BRAKE CO.
INDUSTRIAL DIVISION
PITTSBURGH PENNSYLVANIA



Why Nordstrom builds the PLUG COCK type of valve



Nordstrom Valve with patented "Sealdport" method of pressure lubrication. "Merco" lubricants should always be used.



Also
"Merco" Flanges
A new type of flange joint for use with welded pipe lines requiring insertion of valves and fittings for the taking off of outlets. Extremely flexible. Size from 1½" to 10".

A plug cock by its nature provides the most effective form of valve for combating corrosion or erosion when the valve is used as a stop in a line. This is because when the valve is opened and the line content is flowing through the valve, none of the vital parts are exposed to disintegrating forces. No machined surfaces are being eroded or corroded. Even in the closed position, the portion of the plug surface which is in contact with the line content, is not the portion required to effect a shut-off with the interior ground surface of the body. The plug cock is also the simplest, most rugged type of valve.

Nordstrom has added to these advantages of the plug cock by embodying a method of pressure lubrication. By its use, plug cocks as large as 30" in size are perfectly practical and easily operated. Also, special "Merco" Lubricants introduced under pressure, offer the most effective method of sealing the valve against leakage long after an unlubricated valve might develop leaks.

This combination of the patented Nordstrom method of pressure lubrication and the natural advantages of the plug cock type of valve, offer the most satisfactory solution to valve problems.

ASK FOR LATEST CATALOG

MERCO NORDSTROM VALVE COMPANY SUBSIDIARY OF THE MERRILL COMPANY . . ENGINEERS

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332 Continental Oil Bldg.	Salt Lake City - National Equipment Co.,
Honolulu - W. A. Ramsay Co., Ltd.,	101 West 2nd South St.
Fort & Queen Streets	Tulsa - R. V. Emery & Company,
Philadelphia - Brown, Wilson & Company,	216 E. Brady Street
1600 Arch St.	

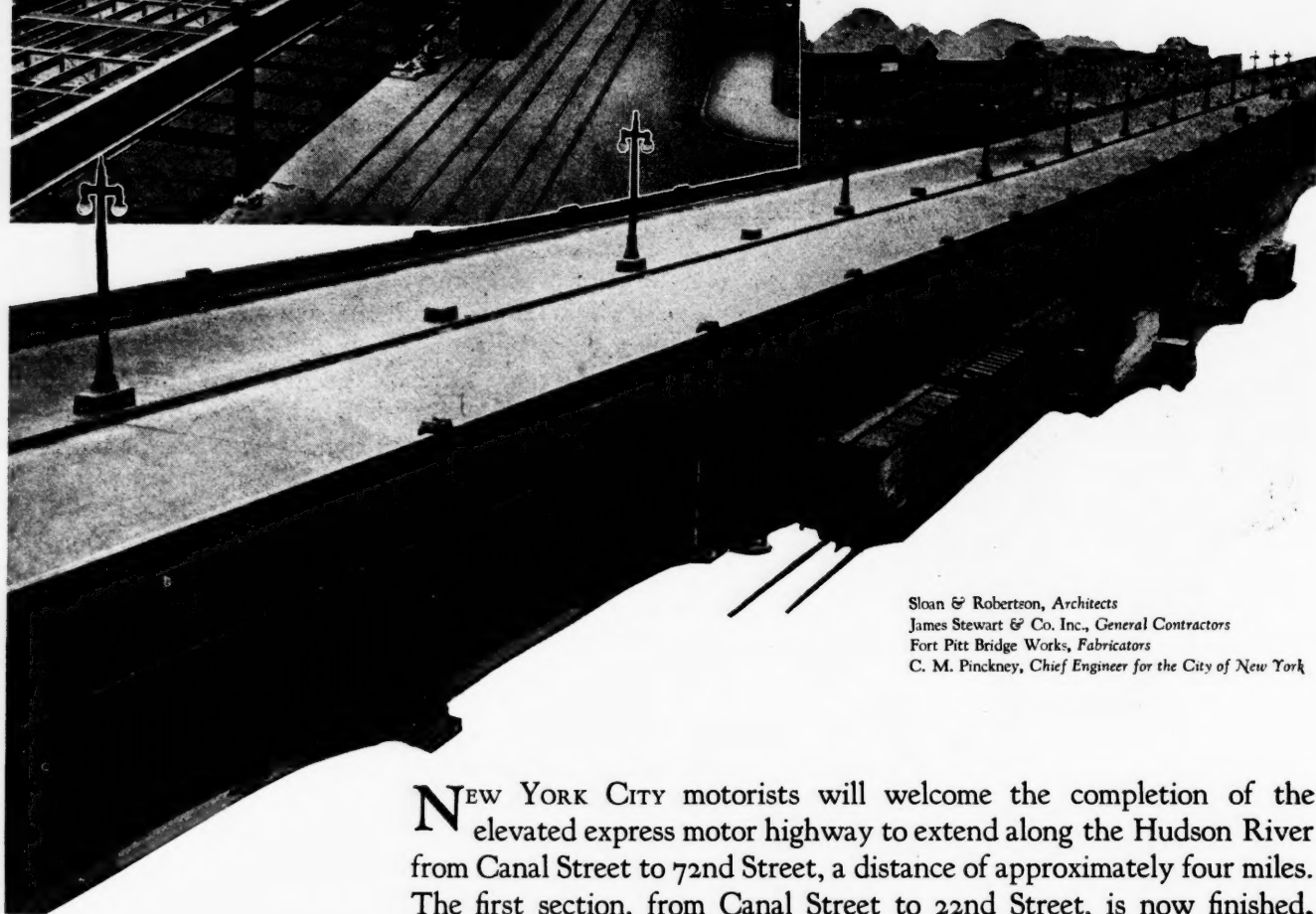
Factories in U. S. - Oakland, Calif. and Belleville, N. J.
Canada - Peacock Bros., Ltd., Montreal, Toronto, Winnipeg, Vancouver. (Also Sydney, N.S.)
England - Andley Engineering Co., Ltd., Newport, Shropshire.
Buenos Aires, Argentine - General Electric, Soc. Anon., Victoria 618 Esq. Peru.

NORDSTROM VALVES

THE PERFECT APPLICATION OF A PRINCIPLE



NEW YORK'S STEEL HIGHWAY



Sloan & Robertson, Architects
James Stewart & Co. Inc., General Contractors
Fort Pitt Bridge Works, Fabricators
C. M. Pinckney, Chief Engineer for the City of New York

NEW YORK CITY motorists will welcome the completion of the elevated express motor highway to extend along the Hudson River from Canal Street to 72nd Street, a distance of approximately four miles. The first section, from Canal Street to 22nd Street, is now finished, providing two separate roadways 30' wide. The design also makes provision for the future addition of a second deck when increase in traffic warrants.

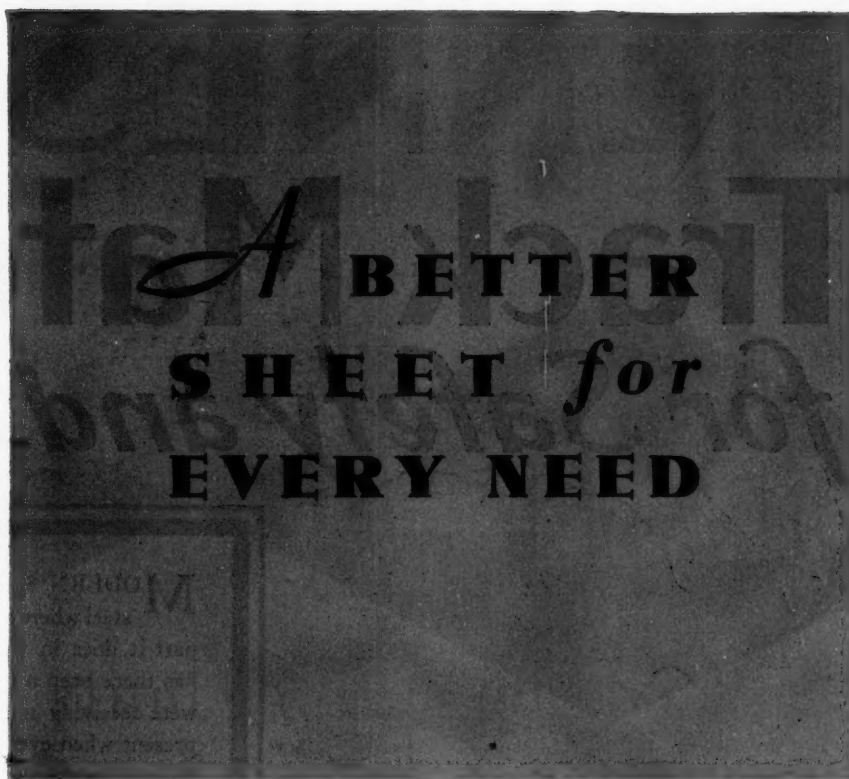
An enormous tonnage of C B (Carnegie Beam) Sections was used in the construction of this first section of the highway. C B Sections possess unique advantages which impart to steel construction greater simplicity of fabrication and erection, and greater economy. If you are considering the erection of any structure requiring the use of structural steel, it will pay you to investigate the merits of C B Sections. Our engineering department is at your service at all times.



CARNEGIE STEEL COMPANY - PITTSBURGH

Subsidiary of United States Steel Corporation

120



MANUFACTURERS

who use steel sheets in the fabrication of their products . . . whether in large, heavy commodities or small novelties . . . will find Youngstown prepared to supply a sheet that is exactly suited to their specific requirements.

Youngstown sheets are dependable . . . manufactured from carefully selected steel . . . uniform in quality . . . accurately rolled to gauge.

If you are faced with any particular purpose. This problem involving the use of sheet steel, a Youngstown representative will be glad to consult with you and advise the best sheet for your service entails neither cost nor obligation. A phone call, wire or letter to the nearest Youngstown office will bring an immediate reply.

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One of the oldest manufacturers of copper-steel, under the well-known and established trade name "Copperoid"

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The Youngstown Steel Products Company, Dashwood House, Old Broad Street, London, E. C. Eng.

GALVANIZED SHEETS PROTECT . . . SAVE WITH STEEL

TENNESSEE

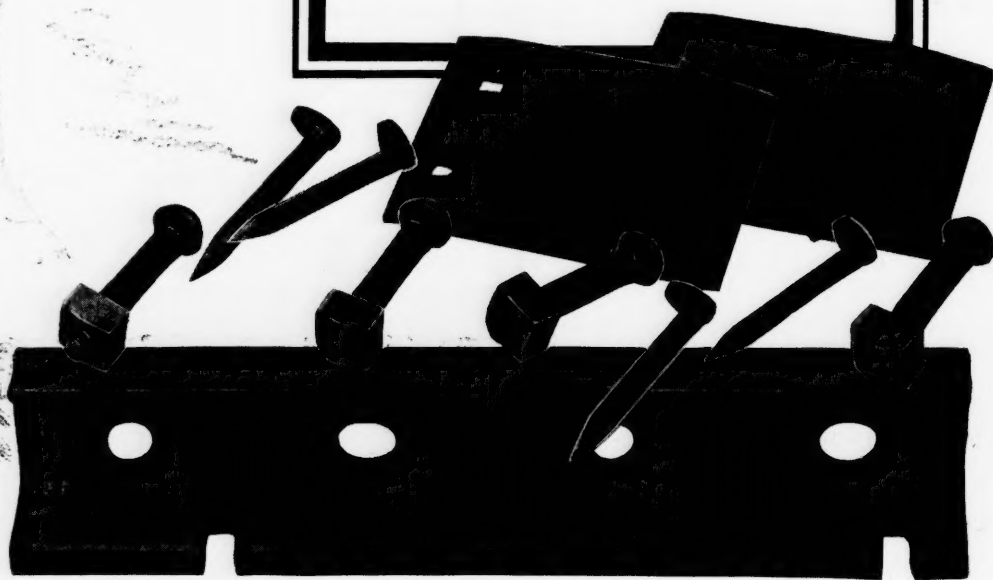
Track Materials

for Safety and Service



MODERN industry reveals few uses for steel where **SAFETY** plays the paramount part it does in track construction—and never has there been a time when **SERVICE** records were receiving more careful scrutiny than the present when every item must prove its worth through performance.

Tennessee Track Materials are produced by an organization of men and mills which for many years has supplied this class of steel in tremendous quantities to many of the country's foremost railroads. This vast experience enables us to unqualifiedly recommend these products of our manufacture for *Safety and Service*.



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STEEL STRUCTURES



GULFSTEEL

MERCHANT AND REINFORCING BARS—ANGLES AND CHANNELS



REG. U. S. PAT. OFF.

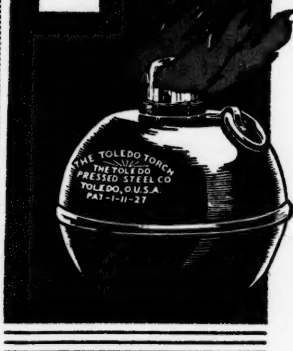
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Economy



The Toledo is the only torch with the new patented Economy Burner. Kerosene consumption cut in half. No wick consumption.

Order from your dealer. Insist on the genuine Toledo.

THE Toledo Torch



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Save with Steel

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Permanence and simplicity are achieved in this impressive unit of Spring Hill College. The rugged strength of reinforced concrete construction is made certain through the use of Connors Reinforcing Bars. Uniform quality and high tensile strength were the deciding factors which led to their choice. Connors Service, as usual, was on the job to assure construction speed. Send us your inquiries. Prices submitted without obligation.

CONNORS STEEL CO.
Birmingham, Ala.

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Of Interest to All Industry



Impregnating cylinder for treating lumber. Diameter 8' 6". Length 36'. Shell thickness 1 1/2". Working pressure 250 lbs.

The range of steel plate products fabricated by Alco is as broad as the boundaries of industry. It includes retorts and tanks for chemical, rubber and textile manufacture * * * creosoting cylinders for lumber, and heavy plate work for use by the cement industry in kilns, etc. * * * blast furnace plate work for steel plants * * * fractionating towers and stills for the oil industry * * * large diameter pipe for water supply and sewage disposal * * * in short, any product that can be made of steel plate.

With these products, Alco offers design by an engineering staff of known ability, workmanship of the high standards traditional with the American Locomotive Company, the extensive and modern fabricating facilities of the American Locomotive Company's plant at Dunkirk, N.Y.—every resource necessary to assure efficient service and satisfactory products.

BUBBLE TOWERS	MIXING KETTLES
STILLS	LARGE DIAMETER STEEL PIPE
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New York, N. Y.

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Division of AMERICAN LOCOMOTIVE COMPANY

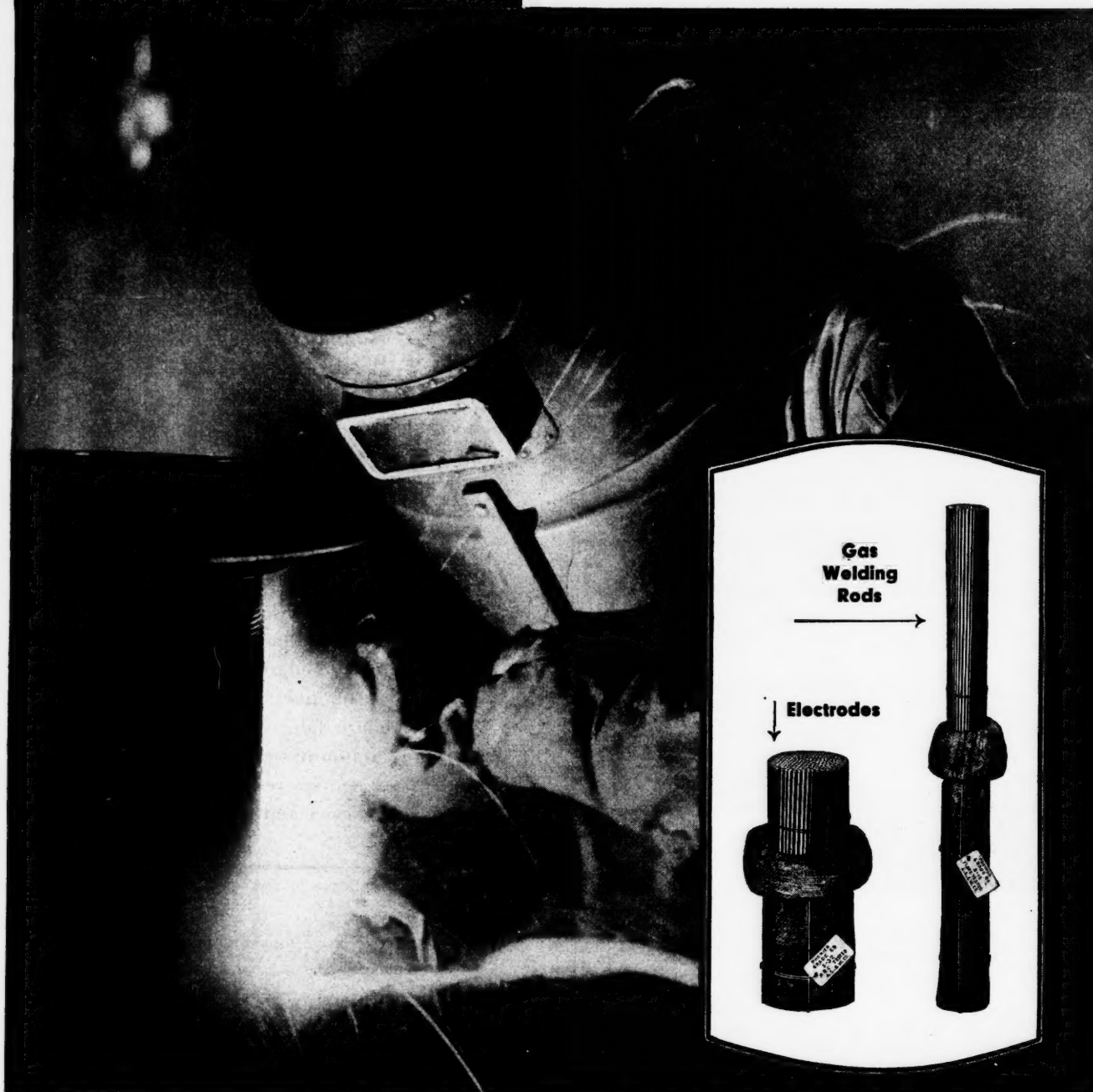
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1831



1931

AMERICAN STEEL & WIRE COMPANY

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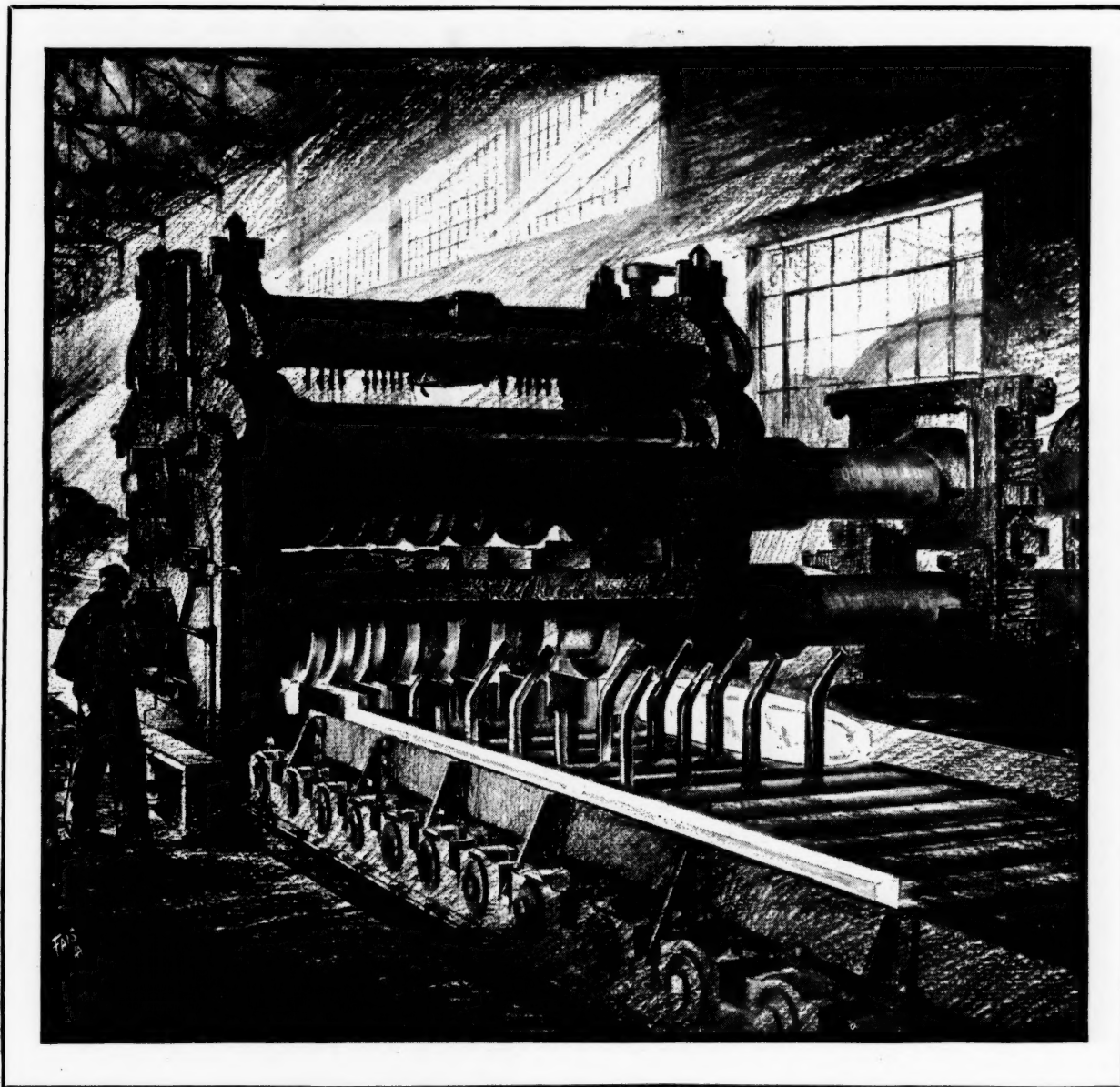


STATES STEEL CORPORATION

And All Principal Cities

Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco

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Hungry jaws *knead* the glowing ingot

FIERY red, an ingot of steel glides up the rollway. Then cruel jaws seize the glowing mass and mold it...back and forth...like so much incandescent putty. Fourteen inches wide, sixteen inches deep and five feet long, when it enters this mill...it leaves a slender "bloom," four inches by four and seventy feet long.

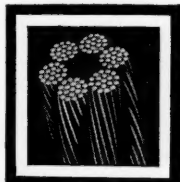
Follow a "bloom" of Roebling acid open-hearth steel and you will understand the exceptional safety and stamina

of Roebling "Blue Center" Steel Wire Rope. As it passes through a seemingly endless chain of processes, each step of production is marked by painstaking thoroughness. The technique of every operation is the result of over 90 years of experience.

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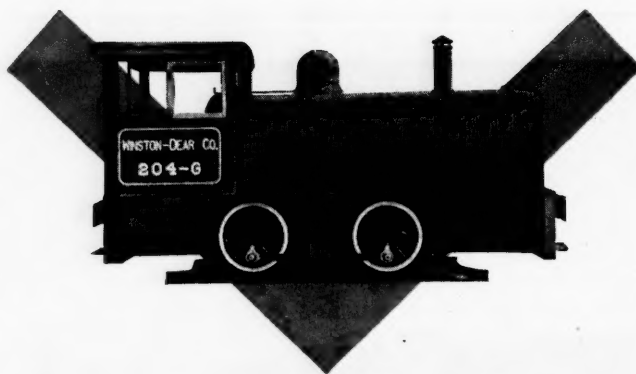
WIRE • WIRE ROPE • WELDING WIRE • FLAT WIRE • COPPER AND INSULATED WIRES AND CABLES • WIRE CLOTH AND WIRE NETTING

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For PORTER Locomotives are in active use all over the world, successfully hauling logs over steep mountain trails . . . heavy stone out of quarries . . . steel billets in steel mills . . . coal from mines . . . finished products in hundreds of manufacturing plants.

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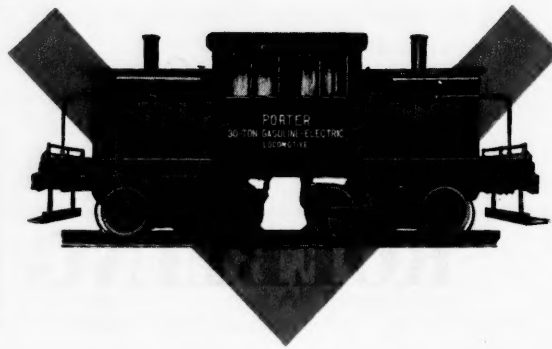
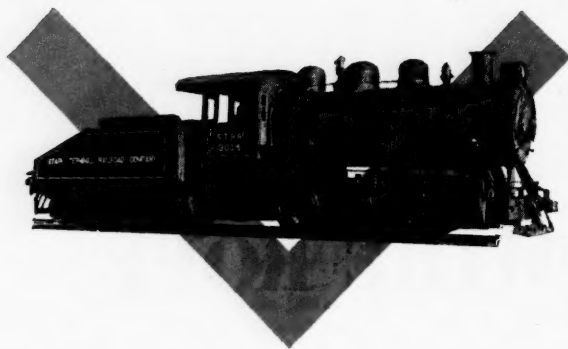
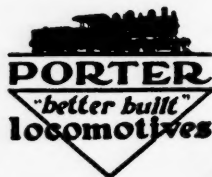
Established 1865

New York Office: 44 Whitehall Street

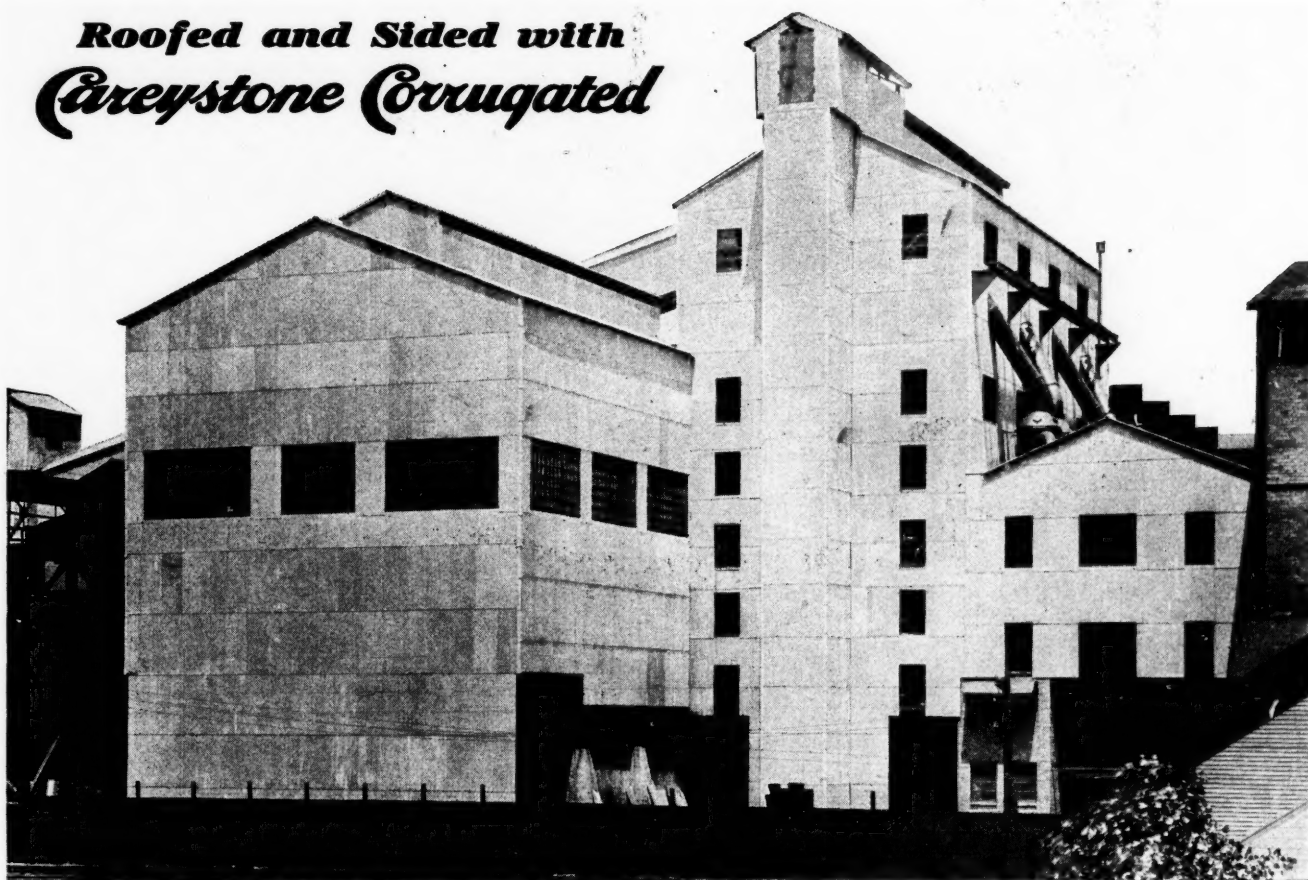
Chicago Office: Engineering Bldg., Wells Street & Wacker Drive

Builders of STEAM, FIRELESS STEAM, GASOLINE - ELECTRIC — OIL-ELECTRIC, GASOLINE and COMPRESSED AIR LOCOMOTIVE

PORTER LOCOMOTIVES



Roofed and Sided with *Careystone Corrugated*



Building of American Steel and Wire Company (Donora Zinc Works Division) Donora, Pennsylvania

Fireproof Buildings at Low Cost

CAREYSTONE Corrugated is made of Asbestos and Portland Cement; therefore it is not subject to attack by rust, decay or fumes. Buildings roofed and sided with CAREYSTONE Corrugated are wise investments, for the first cost is low, and the stone-like surface requires no paint or other treatment at any time. The sheets are generally cut to size at the factory and are applied over steel members with maximum speed and at minimum labor cost.

When industrial buildings of any kind are planned, it pays to check the cost of CAREYSTONE Corrugated against any other type of permanent construction.

Our Engineering Staff will supply drawings and estimates for any building.

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Careystone Corrugated is made in two thicknesses— $\frac{1}{4}$ -in. and $\frac{1}{8}$ -in. and in standard sheets 42 inches wide. Standard lengths 4 to 10 ft.

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ASPHALT PRODUCTS
ELASTITE EXPANSION JOINT
WATERPROOFINGS
ROOF PAINTS

Carey
PRODUCTS
EST. 1873

HEAT INSULATIONS
ASBESTOS MATERIALS
CAREYSTONE CORRUGATED SIDING
ASFALSLATE SHINGLES
BUILDING PAPERS



Photo by Underwood & Underwood

In Kansas City... **CAST IRON MAINS** of the original water system are still in good condition

From prominent cities in every section of the country come testimonials to cast iron pipe's long life and durability. For instance, Kansas City, Mo. A recent letter from the Kansas City Water Department contains the following excerpt:

"The first cast iron pipe was laid in Kansas City about 1874, when the National Water Works Company was granted a franchise to supply water to the city. Some of this pipe is still in service. The lines that have been removed were laid by the old company and were not removed because of any defects in the pipe but were taken up to be replaced by lines of larger capacity."

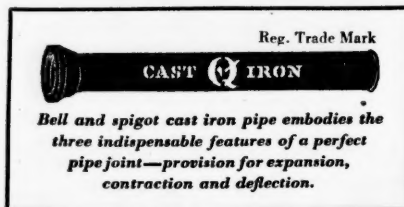
The reason for the long life of cast iron pipe is its effective resistance to rust. Cast iron is the one ferrous

metal for water and gas mains that will not disintegrate from rust. This characteristic makes cast iron pipe the most practical for underground mains, for rust will not destroy it.

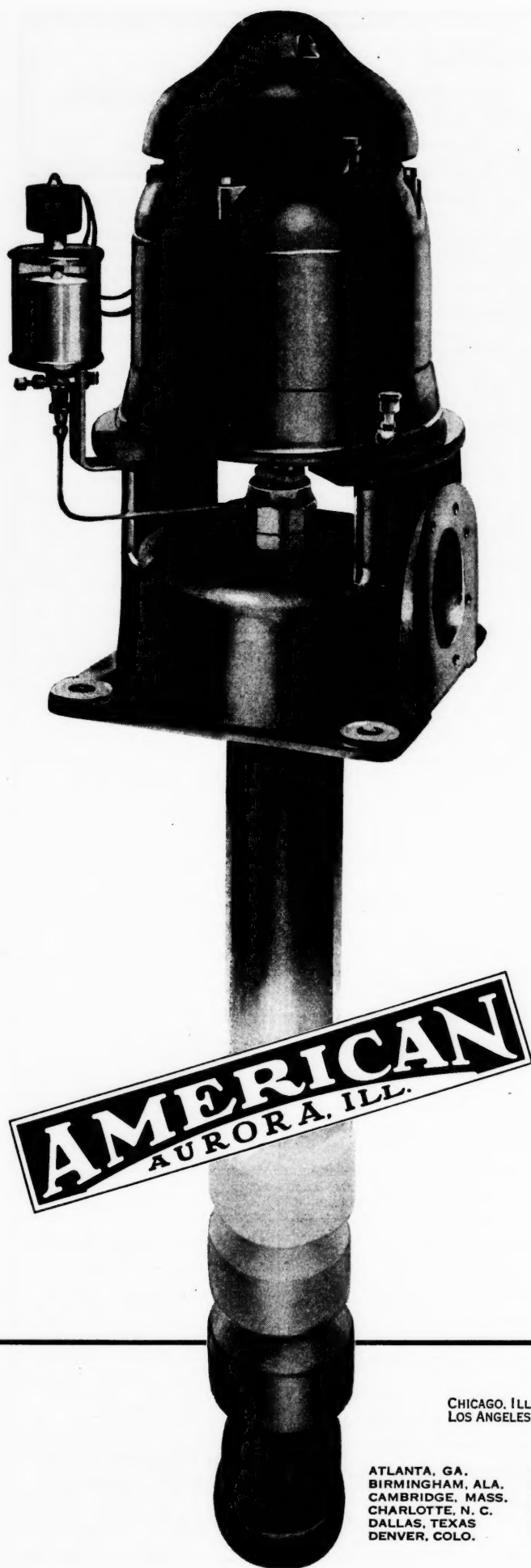
The Cast Iron Pipe Research Association offers to taxpayers, engineers and city officials, detailed information regarding the use of cast iron pipe for gas, water, sewers,

culverts and industrial needs. Address: The Cast Iron Pipe Research Association, Thomas F. Wolfe, Research Engineer, 122 So. Michigan Avenue, Chicago, Ill.

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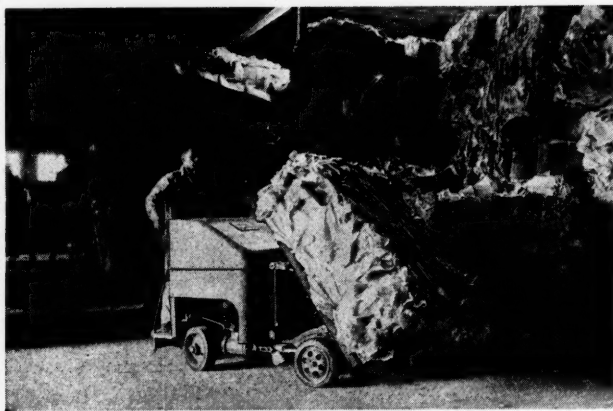
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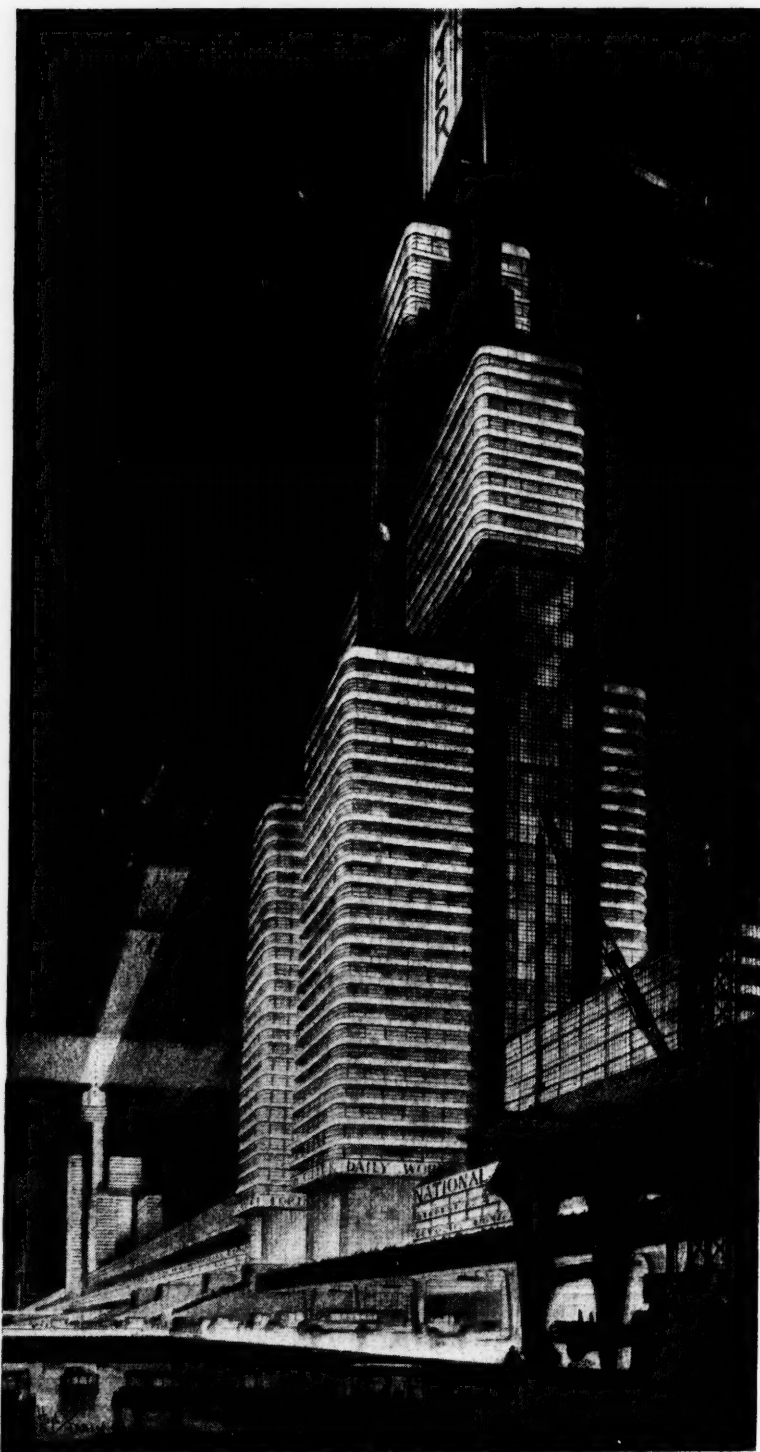
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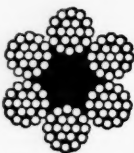
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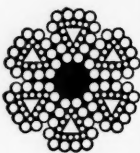
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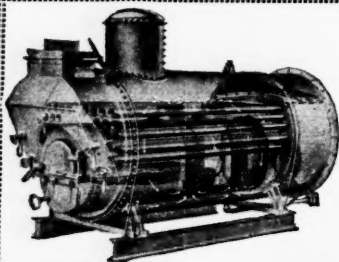
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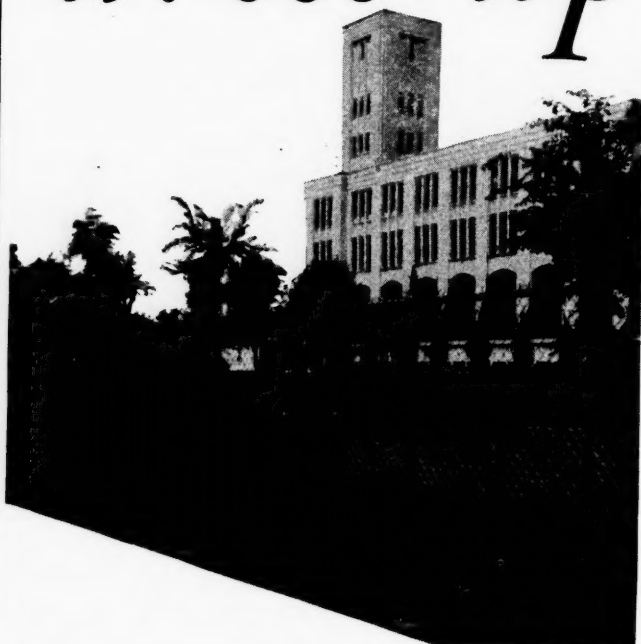
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Devoted to the Upbuilding of the Nation Through the Development
of the South and Southwest as the Nation's Greatest Material Asset

Vol. XCIX No. 11 }
Weekly }

BALTIMORE, MARCH 12, 1931

{ Single Copies, 20 Cents.
\$6.50 a Year }

Muscle Shoals Suggestion Unwise

IT is unfortunate that a convincing veto message on the Muscle Shoals bill should have been marred by a suggestion that the state governments of Tennessee and Alabama go into power and nitrates production on a commercial basis, by leasing the Muscle Shoals plant from the Federal Government.

"I am firmly opposed to the government entering into any business the major purpose of which is competition with our citizens," says one sentence in President Hoover's message. "I would suggest that Alabama and Tennessee set up a commission * * * to lease the plants at Muscle Shoals," is another sentence.

In both principle and practice, governmental operation of Muscle Shoals on a commercial basis by Tennessee and Alabama would not differ in the slightest respect from similar operation by the United States. The citizens with whom the Federal Government would have entered into competition are the thousands of owners of nearly 500 power plants throughout the South, and the owners of nitrate plants. The citizens with whom it is suggested that the governments of Tennessee and Alabama go into commercial competition are exactly the same investors. The governments of Tennessee and Alabama would become active competitors with private nitrates producers in the same fashion as the Federal Government would have done. The impropriety of Federal Government operation is exactly the same in commercial operation by any state, county or lesser governmental unit.

Incidentally, the suggestion becomes still more illogical in a hint that the Federal Government would participate in this state-governmental commercial operation, through membership of Army Engineers in the proposed commission. The Federal Government would take part in an enterprise which itself describes as outside governmental functions.

On strictly practical and economic lines, analysis of the message indicates that Tennessee and Alabama are encouraged to undertake a business which the Federal Government describes in cold figures as involving heavy capital expenditures, and with every prospect of financial loss. New expenditures for the power part of the plants are estimated at \$127,000,000, net. Even a somewhat restricted transmission system is

figured to cost \$40,000,000 "for wholesale purposes only," with "a great increase" for retail distribution to households.

"Assuming that the whole 1,000,000,000 kilowatt-hours should be sold to municipalities or other power distributors, it would, on the basis of the realizations of the private companies of 7.2 mills, yield a gross annual income to this project of about \$7,200,000, or a loss upon this basis of nearly \$2,000,000 annually," says the message.

Equally illuminating is the computation on operation of the fertilizer branch of the plants, the message reading:

"The Department of Agriculture reports that these plants are now more or less obsolete and that with power at even 2 mills a kilowatt-hour, with proper charges included, could not produce the products for which they are constructed as cheaply as these products are now being sold in the wholesale markets. Therefore, it would be necessary to modernize the equipment at an unknown cost in millions."

Summarized, the message shows that Federal commercial operation of Muscle Shoals, for either power or nitrates or for both combined, would (1) be unsound in principle; (2) involve heavy capital investments, and (3) very likely involve financial loss.

To the states of Tennessee and Alabama, however, the message presents an entirely different picture.

"It [the proposed joint commission] could lease the nitrate plants to the advantage of agriculture," says the message. "The power plant today is earning a margin over operating expenses. Such a commission could increase this margin without further capital outlay, and should be required to use all such margins for the benefit of agriculture."

No effort is made to reconcile this statement with the detailed items of exactly contrary nature presented in the earlier part of the message.

For years, says the message, "certain groups" have endeavored "to commit the Federal Government to government ownership and operation of power." This, the message, in unmistakable language, disapproves.

We submit that it is equally unsound and inadvisable to endeavor "to commit" state governments "to government operation" for any commercial purpose,

especially in competition with private citizens with whom the Federal Government itself declines to compete. We submit that this is no time to urge overburdened states to undertake commercial investments which the Federal Government shows will run into hundreds of millions of dollars.

Organized Selfishness Retarding Business Recovery

IN pointing out that the greatest degree of unemployment is in the building trades, the Iron Age refers to the decline for several years in residential building, the normal need each year being some 500,000 new houses and apartments. Residential construction for the last 18 months has been below that figure.

Commenting on the situation, the Iron Age observes that the shortage of housing has not caused the American people to live in tents, but "we may say from deduction that they are living in less floor space per family. There are many who are boarding who would like to have houses of their own. Building mechanics have largely strangled their market and produced their own unemployment. They have curtailed the requirements for materials and, consequently, have induced unemployment among miners, manufacturers and carriers. This may even have an effect upon automobile manufacturing. The suburban home and the automobile have become largely united." Further:

"This evil situation shows signs of correction and therein is the greatest encouragement in respect to recovery from our domestic depression. In spite of unions, or the naming of terms otherwise, economic law prevails. With disappearance of demand, contractors first became able to select the best men and let the inferior be idle. The best men strained to perform more work in order to hold their jobs. Finally the rejects entered into competition as bootleggers of labor and the union leaders could do nothing else but wink at their infractions of scale. In the end there remains the old scale of wages without meaning, except to the careless buyer who does not shop. What looked like a stranglehold has been broken.

"The chief stranglers who remain are the railroad brotherhoods and the anthracite coal miners. They may aggregate about 600,000 workers out of 40,000,000 non-agricultural. They have rendered themselves immune from carpet-baggers and bootleggers, i. e., from competition. They are not immune from substitutional competition, however, and every year that passes increases their unemployment, which is something quite different from the consequences of the economic depression of 1929-31. The price for anthracite coal has not been reduced; in some regions it has been increased. Freight rates and passenger rates remained unchanged. Even now the railroad brotherhoods are meditating some new exactions. When they have made up their minds they probably will get whatever they demand. The railroads will then be stimulated to produce more unemployment among them."

In other words, the demand of some labor unions for the maintenance of a wage scale based on the most prosperous times in our history illustrates a degree of organized selfishness which is detrimental to their own membership and to the majority of American citizens. Investment incomes, salaries and wages of those outside the favored unions have been reduced. The stand taken by union labor, holding to

a high wage scale while living costs are from 20 to 25 per cent below the peak of 1920, throws a heavy burden even upon their own members, who represent such a large proportion of the unemployed.

It is another demonstration of the fact that high wages cannot make prosperity, though prosperity can make high wages. Labor prices are now inflated by labor-union obstruction of the application of the natural law of demand and supply. No arbitrary wage scale can long be continued when this economic law is violated. No industry or trade can long continue absolutely in control, for business today tends to sweep around obstructions by creating new products and new methods. Labor unions in the key industries of construction, transportation and mining should heed the handwriting on the wall. The labor-union leaders of the building trades are retarding construction. The railroad unions are feeling the effects of cheaper competitive transportation agencies, and the unionized coal miners are facing the growing use of other fuels. They are paying the penalty of selfishness by their refusal to cooperate with efforts of other workers, and business generally, to stimulate activity that will bring back prosperity and an increased wage scale and employment resulting from that prosperity.

As Others See Us

TO see ourselves as others see us often brings us up with a jolt. It is well however to look facts in the face occasionally and profit by our mistakes. The views of an outsider who has a deep interest in the welfare of the United States are expressed by Herbert N. Casson, editor of Efficiency Magazine of London, in the following message to American business men. They are published in the March issue of the house organ "Doorways," of the Richards-Wilcox Manufacturing Co., Aurora, Ill., and are worthy of consideration:

"You are depressed. You think you are crippled. You are afraid of the future. You are full of fears.

"You have half the gold of the world and half the machinery and most of the automobiles and all the skyscrapers.

"You have the greatest home market in the world and the largest corporations that the world has ever seen.

"You are ruled more by ideas and less by tradition than any other people in the world. You have usually done what you thought you could do.

"There is now a golden opportunity for every man who has eyes to see it.

"Dollars are now being sold for thirty cents. Practically every security in the United States is now being sold at less than its value.

"The way to create a fortune is to buy from pessimists. Pay your money and take the risk.

"Frick started his career by buying coke ovens in the slump of 1873. Carnegie made \$300,000,000 by buying steel plants in slumps.

"In five years from now, most American business men will belong to the 'I-Wish-I-Had-Club.'

"Then it will be too late to buy a dollar for thirty cents. The opportunities will be gone.

"When a horse balks the balk is in his head, not in his legs. He moves on when he thinks he will."

Industrial Taxes

LAST week there appeared in the Columbia State an editorial on the tax question that we wish every citizen and lawmaker in the South could read. It was headed, "Why South Carolina Should Neither Kill Nor Frighten Away Geese Laying Golden Eggs," and with frankness of expression and clarity of vision and thought it presents facts that ought to be impressed upon every Southern commonwealth and community. The logic of the Columbia State's appeal for the use of sanity and business judgment in levying taxes upon industry is incontrovertible. The MANUFACTURERS RECORD, therefore, is glad of the opportunity to reprint the editorial in full, and thus help to spread facts of vital concern to every farmer, merchant, manufacturer, banker and worker in the South. It follows:

"The State knows nothing about the costs or profits, hazards or security of power companies.

"We don't know how much or how little 'water' is represented in their capital; or whether some concerns are more addicted to water than others. But if a power company sells power to an extent even approximating its capacity it should make 'good money.' A newspaper is not supposed to be a consumer of power; and it is not a large consumer. But The State paid a little more than \$4000 for the 'juice' used last year, and saved quite a bit by doing its own transforming.

"But The State does know that for 40 years the great hope and effort of numbers of those men who, in one generation or another, have worked for South Carolina as ardently and gladly as good men would work for their dependent mothers, has been to secure 'power development' in South Carolina. Look back over the tally of the years and mark the roster of such single-hearted workers for South Carolina, friends and fellow citizens, and you must concede they have not been too numerous. But they have helped their state.

"And if 30 and 40 years ago it seemed important to have power developments and what should follow such developments, in this period, with the decadence of agriculture, such developments with their following industries are of much greater concern. For it is sure, as economists have pointed out and common sense reveals, an agricultural state cannot now stand alone.

"Our cotton manufacturing industry cannot, in this era, be further developed. It has been and is of incalculable value, but it will be a long time before the mills will employ as many operatives as were on their payrolls 15 years ago. What, therefore, is the answer to the question (and remember it is a question which must be answered and in that answer the legislature has heavy responsibility), 'How can employment be found for those turned away from the cotton mills, and how can those working on farms be benefited?'

"No legislation can directly materially help those two classes, but legislation can help produce conditions which would help them.

"What are those conditions which the legislature can foster? It can help, and most certainly it can refrain from repelling, the establishment of industries; varied industries; industries large and small that employ wage earners; a multiplicity of industries whose workers may earn substantial incomes.

"Such industries do two very important services outside of what they may earn for their stockholders; they give employment 'at living wages' to those capable of doing the work required, and in so doing they produce new buying power for the products of South Carolina. We are convinced that a big hope of prosperity for agricultural industries in this state is in the widespread investment by outside capital in varied manufacturing industries. Agriculture and manufacturing must be balanced.

"This end cannot be fully attained in one year or in ten years, but it should be a definite objective and part of the fixed plan and purpose of our legislatures.

"Capital is being kept out of South Carolina by the work-

ings of our stupid tax system, the system of having a terrifyingly high tax rate but having that rate apply to assessments of from 5 to 25 per cent of market values. Investors in other states do not understand that system—and no wonder—and it scares them stiff. Knowledge of this is largely responsible for The State's advocacy of the proposal to remove all state taxes from real property. Were that done, the counties would be free to have honest returns of realty, and the more honest the county the lower its tax rate and the greater its appeal to investors.

"And now, when we have not a fourth of our possible waterpowers developed, and when there seems real active interest in the development of the great power on the Santee Canal—a twenty or thirty million dollar enterprise—it is proposed to tax power already developed in South Carolina so as to produce \$750,000! Presto! Cold feet in the Santee.

"While these great power developments turn loose a good many millions which go into circulation in the communities in which they are built; and while the taxes they pay when completed help the counties in which they are located towards Easy Street, the developments, per se, are not of greatest value. It is the industries which use their power. And when a state taxes 'power' which industries require and which they must have as cheap as possible, can one imagine capital being invested in industries in that state, when other untaxed power is open to it everywhere else? An investor knows the tax will be passed on to him. That is a decided drawback, but he is naturally apprehensive of conditions in a state whose people are so shortsighted.

"What wisdom should come from a study of the old fables! A farmer owned a goose. He was overjoyed to find that each day or two his goose laid an egg of pure gold. But while the eggs were very valuable he wanted them to come faster. Finally he said, 'I'll kill the goose and get a peck of eggs all at once.' He killed the goose but found no golden eggs.

"That farmer was not a statesman. He didn't even know how his wealth was being produced, or what effect his action to gain an immediate large sum would have on the future. He didn't look ahead. He was a fool and the Lord did not smile upon him."

Another Soviet Dumping Menace

RECENT warning from Moscow that the Soviet will curtail purchases from the United States if any anti-Soviet embargo be enforced has a very familiar ring. Repetition of the allegation that "Russia buys \$113,000,000 in goods from the United States and sells America only \$20,000,000" becomes almost monotonous.

More interesting is the fact that Soviet Russia was the only steel and iron producing country which increased its output in those lines in 1930. Russian steel production of \$5,250,000 tons was 10 per cent above its figure for 1929, and 4,950,000 tons of pig iron in 1930 topped the 1929 figure by about 17 per cent.

The contemplated flooding of the United States with Soviet wheat, woodpulp, lumber and other products is well known in this country. Next on their program is the plan to supply cotton to European countries. Is this destructive dumping process now to be extended to include steel and iron?

Products produced, transported or handled by indentured or forced labor should not be allowed to come into the United States. Sentiment is growing in favor of legislation that will keep out imports which are manufactured under conditions now obtaining in Soviet Russia.

Activity South in Building and Industry

CONTRACTS awarded last month in the sixteen Southern States for building, industrial, engineering and general construction projects had an aggregate valuation of \$43,167,000, bringing the total of awards for the first two months of this year to over \$110,000,000. The valuation for similar construction operations reported for the corresponding months of 1930 was \$114,489,500. The showing made this year is particularly encouraging when it is considered that in 1930 the highest total of record was established, \$921,715,000, exceeding by \$141,000,000 the 1929 total and surpassing the previous high total of 1926 by \$30,000,000.

Awards during the five-week period in January averaged \$13,400,000 weekly. During February the weekly average was \$10,790,000.

These figures are compiled from construction reports of the MANUFACTURERS RECORD. Only those projects are included for which actual figures were available as to cost. Moreover, thousands of residential structures and small projects costing under \$10,000 each, are not reported.

Planned and proposed construction and building operations, in the second month of 1931, called for an expenditure

of more than \$118,000,000. For January, such announcements showed a total of \$70,704,000. Together with the 1931 budgets of various power companies and utilities and railroads, there is in sight a big volume of important new construction, building and industrial work in all parts of the South.

February activity was featured by the award of contracts totaling over \$17,000,000 for road, paving and bridge projects. In the first two months of the year contracts let for such work represented a total of nearly \$50,000,000. Practically

FEBRUARY, 1931		
	Awarded	Proposed
Apartment Houses and Hotels	\$2,206,000	\$3,168,000
Association and Fraternal	378,000	370,000
Bank and Office Buildings	1,193,000	410,000
Church Buildings	589,000	923,000
City, County, Government and State Projects	1,485,000	8,766,000
Dwellings Costing \$10,000 or Over	1,900,000	3,128,000
Miscellaneous	10,320,000	62,434,000
Roads, Paving and Bridges	17,080,000	32,441,000
Sewers, Drainage and Waterworks	4,988,000	1,568,000
School Buildings	2,202,000	4,068,000
Store Buildings	926,000	729,000
	\$43,167,000	\$118,005,000

FEBRUARY		
1930	\$75,340,500	\$113,339,500
1929	61,556,500	
1928	50,058,500	
1927	43,378,500	

every Southern state is speeding up road and bridge work to take advantage of additional Federal aid recently granted. However, even with additional funds from the sale of bonds and by the imposition of higher gasoline taxes, various states are finding it difficult to utilize fully the Federal aid made available, because, due largely to drought conditions in 1930, road and bridge work went forward with fewer interruptions than normally, so that many contracts were completed far in advance of estimated dates, necessitating payments earlier than had been anticipated. The Texas legislature is considering plans for a bond issue of \$175,000,000 to \$225,000,000. Maryland may issue \$6,000,000 in road bonds. In Arkansas the legislature has increased the gas tax from 5c to 6c. Already the 6-cent gas tax is imposed in Florida, in Georgia and South Carolina.

Awards for miscellaneous construction projects in February amounted to \$10,220,000, compared with \$11,074,000 covering lettings for similar undertakings in January. Under this heading are included such undertakings as steam and hydro-electric power plants, public garages, railroads, piers, industrial enterprises, and work not properly included in the other listings.

Acquires Gas System

Lake Charles, La.—The United Gas Public Service Co., a unit of the United Gas System, Houston, Tex., has purchased the gas plant and city distribution system at Lake Charles from the Gulf States Utilities Co. and will make this city headquarters of the entire division to be served by a new pipe line now under construction in Southwest Louisiana. The company has started construction of a natural gas pipe line from Kirbyville, Tex., to Franklin, La., 158 miles, with 265 miles of laterals, having obtained franchises in 38 Louisiana communities. The Lake Charles system will be taken over officially about July 1, and

as soon as legal details have been completed the company will enlarge it to distribute natural gas.

\$600,000 Nurses' Building

St. Louis, Mo.—Bids will be opened March 17 by the Board of Public Service, City Hall, for constructing a \$600,000 nurses' building, separate proposals to be received for general construction; installation of plumbing, drainage and gas fitting; for installing heating and ventilating; electrical work, and elevators. Albert Osburg is the architect and L. R. Bowen, the engineer, both of St. Louis.

Southern Mill Gets Big Order

Spray, N. C.—The Carolina Cotton & Woolen Mills Co. has been awarded contract by the Navy Department for 40,000 blankets at \$3.40 each. H. P. Shedd is president of the company and E. D. Pitcher, secretary and treasurer.

\$3,200,000 For Naval Hospital

Washington, D. C.—President Hoover has approved a bill authorizing an expenditure of \$3,200,000 for new buildings at the Naval Hospital here, and of this sum \$100,000 will be charged to the Naval Hospital fund.

Outstanding Building, Industrial and Engineering Projects for February

THE following tabulation comprises a few major enterprises selected at random from reports published in February of this year. It shows the diversity of building and construction operations in the South, and gives emphasis to the fact that these developments are widely scattered throughout the territory. The total investment involved in carrying to completion these 56 representative undertakings is \$156,000,000.

Location	Type of Project	Estimated Cost	Status	Promoted by
Birmingham, Ala.	Courthouse	\$1,500,000	Vote bonds, March 10	Jefferson County Commrs.
Washington, D. C.	Office building	865,000	Plans under way	Treasury Department
	Church	2,000,000	Proposed	National Capital Presbyterian Commission
	I. C. C. office bldg.	4,750,000	Plans under way	Treasury Department
	Dept. of Labor bldgs.	4,500,000	Plans under way	Treasury Department
	Dept. of Justice bldgs.	5,000,000	Plans under way	Treasury Department
St. Petersburg, Fla.	Bridge-tunnel	6,000,000	Proposed	West Coast Bridge & Tunnel Co.
Austell, Ga.	Thread Mill	500,000	Contract for first unit	Clark Thread Co.
Bowling Green, Ky.	Hydro power plant.	1,500,000	Work under way	Ky.-Tenn. Light & Power Co.
Kentucky	Natural gas line.	25,000,000	Projected to serve Detroit	Columbia Gas & Electric Co. reported interested
Louisville, Ky.	Water reservoir	1,500,000	Engineers named	Louisville Water Co.
	Schools	3,000,000	Budget for 1931-32	Board of Education
Louisiana	Gas and power facilities	2,000,000	Budget for 1931	Southwestern Gas & Elec. Co.
New Orleans, La.	Hospital	500,000	Plans completed	Treasury Dept., Washington
	Seawall	950,000	Contract let	Orleans Levee District
	Sprinkler system	1,134,000	Contract let	Bd. of Port Comm.
Maryland, Virginia	Telephone facilities ...	8,583,000	Budget for 1931	Chesapeake & Potomac Tel. Co.
Baltimore, Md.	Water conduit	1,445,000	Contract let	City Water Dept.
	Mausoleum	600,000	Projected	Jos. F. Moreland
	Junior High School.	900,000	Plans under way	Bd. of Public Improvement
Betterton, Md.	Hotel, etc.	1,000,000	Contract let	Royal Swann Corp.
Cumberland, Md.	Post office	640,000	Plans under way	Treasury Department
	Waterworks	900,000	Engineer named	City Engineer
Kansas City, Mo.	Telephone facilities ...	5,000,000	Proposed	Southwestern Bell Tel. Co.
	Store	500,000	Projected	J. W. Jenkins Sons Music Co.
	Grain elevator	1,000,000	Contract let	Missouri Pacific Ry.
Springfield, Mo.	Hospital	3,500,000	Proposed	Dept. of Justice, Washington
	Gas and power facilities	700,000	Proposed program	Springfield Gas & Elec. Co.
North Carolina	Bottling plants	500,000	Projected	Dr. Pepper Beverage Co.
Durham, N. C.	Federal building	550,000	Plans under way	Treasury Department
Tulsa, Okla.	Bridge	500,000	Plans under way	H. A. Parker, City Engineer
	Union Bus Terminal.	1,500,000	Projected	Tulsa Opera Co.
Southern States	Power facilities	25,000,000	Budget for 1931	Middle West Utilities Co.
Tennessee	Power facilities	4,500,000	Budget for 1931	Tennessee Electric Power Co.
	Natural gas line.	3,000,000	Projected	Memphis Natural Gas Co.
Kingsport, Tenn.	Rayon yarn plant.	1,000,000	Contract let	Tennessee Eastman Corp.
Knoxville, Tenn.	Post office	1,575,000	Soon select site	Treasury Department
Nashville, Tenn.	Hospital	500,000	Bids received	Nashville General Hospital
Texas-New Mexico	Natural gas line.	6,000,000	Plans completed	Western Gas Co.
Texas	Power facilities	3,400,000	Budget for 1931	Central Power & Light Co.
	Oil pipe line.	450,000	Under way	Arkansas Fuel Oil Co.
	Rail facilities	7,880,000	Program for 1931	Chicago, Rock Island & Pacific Ry.
Beaumont, Texas	Wharf	600,000	Projected	R. C. Black, City Engineer
El Paso, Texas	Rail facilities	1,000,000	Projected	Southern Pacific Co.
Dallas, Texas	Storm sewers.	1,600,000	Plans under way	John M. Young, City Engineer
	Freight terminal	500,000	Projected	Burlington & Rock Island R. R.
Kilgore, Texas	Oil pipe line.	850,000	Projected	Magnolia Petroleum Co.
Wichita Falls, Texas	Waterworks	1,000,000	Bids received	W. E. McBroom, City Clerk
	Federal building	600,000	Architect selected	Treasury Department
	Power facilities	4,000,000	Budget for 1931	Virginia Elec. & Power Co.
Virginia	Pier	800,000	Bids received	Navy Department
Hampton Roads, Va.	Pier	500,000	Projected	Atmospheric Nitrogen Co.
Hopewell, Va.	Barracks	539,000	Contracts let	Constructing Quartermaster
Langley Field, Va.	Canal lock	800,000	Contract let	U. S. Engineer
Marmet, Va.	Hospital	800,000	Proposed	U. S. Public Health Service
Norfolk, Va.	Athletic club	600,000	Company organized	Cavalier Athletic Club
Richmond, Va.				

Developed Water Power Shows Gain

THE total capacity of water wheels installed in waterpower plants of 100 horsepower or more in the United States on January 1, 1931, was 14,884,000 horsepower, an increase of 1,776,000 horsepower, or 7 per cent during 1930. An estimate based on present practice in the installation of water wheels for the utilization of waterpower sites shows that about 80,000,000 horsepower could be developed from waterpower in this country. Therefore, based on present installation, about 19 per cent of the nation's water power is being utilized at the present time. The following table shows the total capacity of water wheels in waterpower plants in the United States and the yearly increase:

Janu- ary 1	Installed Horsepower	Increase Horsepower	Per Cent
1927	11,720,983	544,387	4.9
1928	12,296,000	575,017	4.9
1929	13,571,530	1,275,530	10.4
1930	13,807,778	236,248	1.7
1931	14,884,667	1,076,889	7.2

In 1910 the total installed capacity of all the waterpower plants of the country was 5,356,000 horsepower and the South had less than 1,000,000 horsepower. On January 1, 1931, there was reported 4,367,000 horsepower of hydro-electric generating capacity in the Southern states. This was a gain of 470,000 horsepower over the previous year, and compares with a total gain for the entire country of 1,077,000 horsepower. Nearly 44 per cent of the increase was in the Southern states and the South's gain

was 77 per cent of the gain reported for the rest of the country.

In the percentage of distribution of developed hydro-electric power the South has shown a steady upward trend, while other geographical divisions of the country have been declining. In 1910 the South Atlantic states had only 8.8 per cent of the country's developed waterpower. Today these states have nearly 20 per cent, and the East South Central states increased from 7 per cent in 1910 to 9.2 per cent in 1930.

DISTRIBUTION OF DEVELOPED WATERPOWER IN UNITED STATES

Geographic Division	Percentage of Total in United States		
	1929	1930	1931
New England	12.2	11.9	12.7
Middle Atlantic	15.6	15.3	14.9
East North Central...	8.0	7.8	7.3
West North Central...	4.1	4.0	3.8
South Atlantic	19.1	19.2	19.6
East South Central...	8.2	8.4	9.2
West South Central...	4	4	3
Mountain	8.4	8.6	8.2
Pacific	24.0	24.4	24.0

The total number of public utility and miscellaneous waterpower plants owned by manufacturers in the South on January 1 was 401, of which 241 were public utility plants, with an installed capacity of 4,122,000 horsepower. Waterpower plants of manufacturing enterprises numbered 160, with a capacity of 244,000 horsepower. With the completion of the Saluda hydro-electric development in South Carolina, that state accounted for most of the increase in the South in 1930 compared with 1929.

That the South will continue its waterpower expansion is certain. Even during the general business recession of 1930 several outstanding projects were undertaken, notably those on the White River in Arkansas, where it was announced that a series of plants would be constructed at a cost of \$43,000,000. Other plants in Arkansas and several plants under construction in the states of Missouri, Florida and Georgia will be completed in 1931, and thus help to increase the South's installed waterpower capacity, assuring adequate service to take care of expected demands.

Arkansas Hospital Buildings

Benton, Ark.—Bids will be opened March 26 by the Arkansas Construction Commission, Joseph M. Hill, chairman, Little Rock, for buildings comprising the second unit, farm colony of the State Hospital for Nervous Diseases, under construction in Saline County near Benton. The structures will include one employes' home, one assembly building, four patients' dormitories, one cafeteria building and two comfort stations. Separate proposals will also be opened for heating, ventilating and plumbing; electrical work; kitchen equipment, both for this and the first unit. Mann, Wanger and King, Little Rock, are the architects.

\$799,000 River Lock

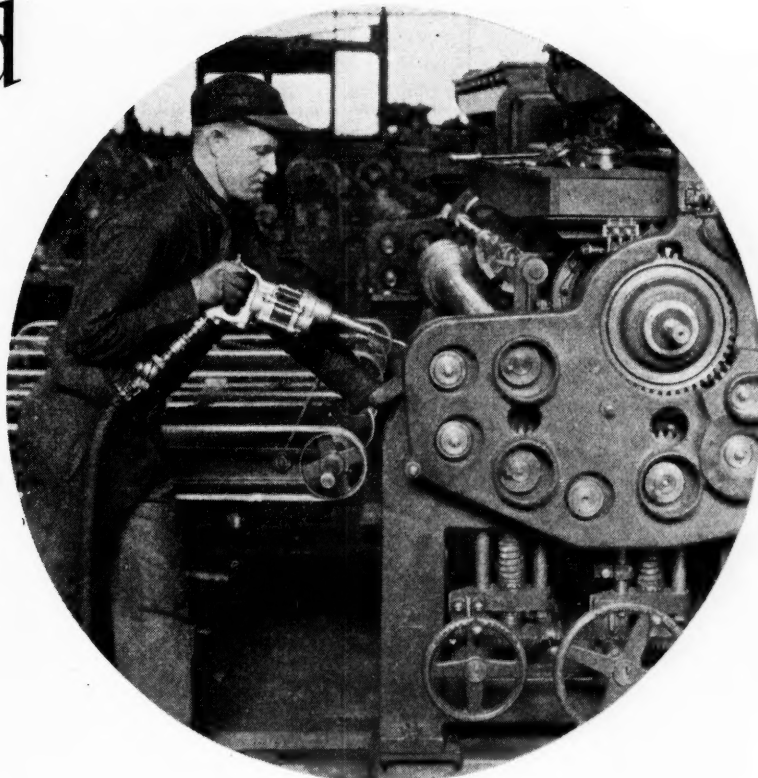
Marmet, W. Va.—The U. S. District Engineer, Huntington, W. Va., has awarded contract to the General Contracting Corporation, Pittsburgh, Pa., at \$799,462, for building one of twin locks in the Kanawha River opposite Marmet. This is the riverward lock and construction will entail guard walls, lock gates, stoney gate valves, gate and valve operating jacks and machinery, piping and control valves, necessary metal work and such incidental work as may be needed or ordered by the District Engineer. Another lock approximately similar to the Marmet lock will be built at London, W. Va., and bids for this construction will be opened about March 16.

PUBLIC UTILITY AND MISCELLANEOUS WATERPOWER

States	January 1, 1931					
	All Water- power Plants	Total Developed Horsepower	Number of Plants	Public Utility Horsepower	Number of Plants	Manufac- turing Miscella- neous Horsepower
Alabama	12	931,450	11	919,450	1	12,000
Arkansas	4	15,530	4	15,530	....	....
District of Columbia	3	5,750	1	4,400	2	1,350
Florida	5	21,955	5	21,955	....	....
Georgia	50	482,459	35	462,492	15	19,967
Kentucky	7	144,640	5	143,901	2	739
Louisiana .....	....	....	....	....	....	....
Maryland	13	415,755	5	411,785	8	3,970
Mississippi .....	....	....	....	....	....	....
Missouri	9	37,000	7	36,700	2	300
North Carolina	115	954,000	55	924,000	60	30,000
Oklahoma	4	2,533	4	2,533	....	....
South Carolina	47	815,938	27	792,678	20	23,260
Tennessee	32	287,563	21	173,983	11	113,580
Texas	26	31,174	16	27,849	10	3,325
Virginia	64	134,647	36	104,898	28	29,749
West Virginia	10	86,675	9	80,575	1	6,100
Total	401	4,367,069	241	4,122,729	160	244,340
United States	3,344	14,884,667	1,588	13,108,830	1,756	1,775,837

Compressed Air *in* Industry

By
SAMUEL A. LAUVER



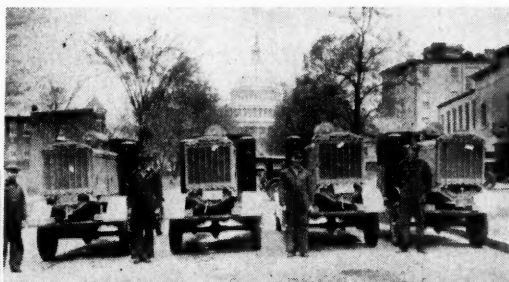
Rotor air tool, drilling oil holes in machinery assembly in F. X Hooper Co. plant at Glen Arm, Md.

MORE than 2000 years ago Egyptian priests were employing rudimentary principles of air expansion and compression in the operation of devices designed to excite the superstitious awe of their followers. Today similar principles, more highly developed, serve the practical purpose of performing speedily and with ease several hundred industrial tasks, many of which would otherwise require expenditure of much time and arduous labor. The motorist gives little thought to the equip-

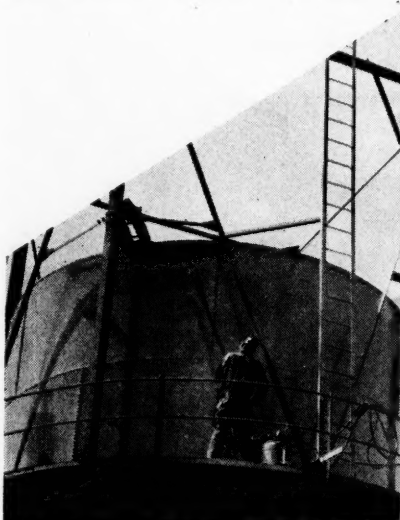
ment by which the tires of his automobile are inflated at the filling station. Nor is the curious spectator who watches construction of the steel skeleton for an impressive skyscraper likely to be familiar with the principle behind the rat-a-

tat-tat of the pneumatic riveting machine. Yet air compression is an essential factor in both these operations.

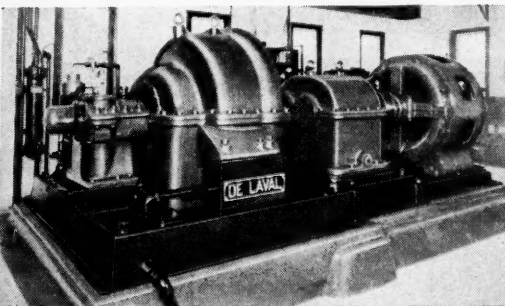
The air brake, important in railway transportation, is numbered among the first developments of practical compressed air equipment. The safety of street car passengers is largely dependent on this device. Also, as the passenger alights, the doors closing behind him are in many cases operated by compressed air. So, in numerous ways, from operation of diving apparatus under the



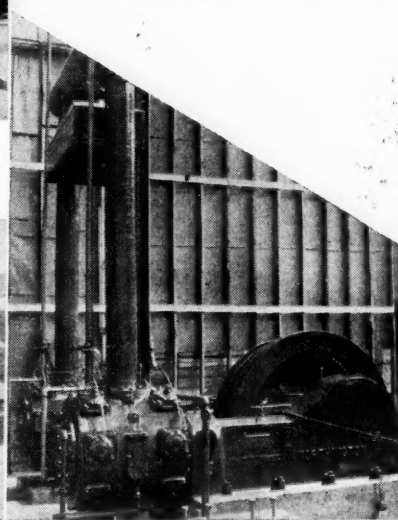
Fleet of Sullivan portable compressed air units owned by the city of Washington



Paaech air-operated equipment painting a gas holder. This is a typical operation at many points in the South.



This DeLaval 2-stage centrifugal compressor supplies air for agitation in the treating tanks of a sewage disposal plant in Houston, Texas

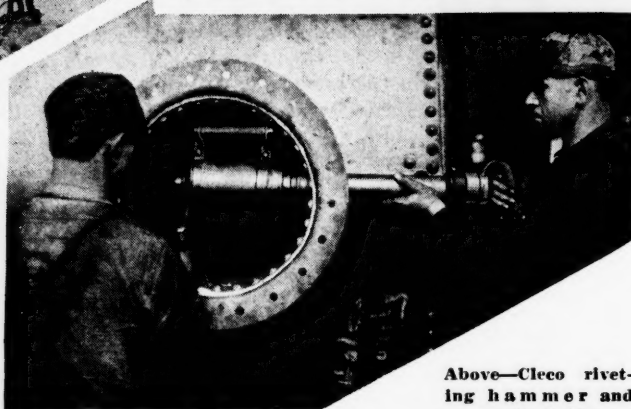
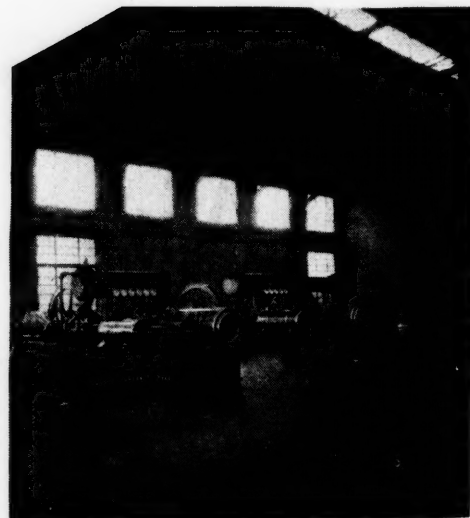


One of nine Worthington air compressors operating air tools and other equipment in a West Virginia glass plant

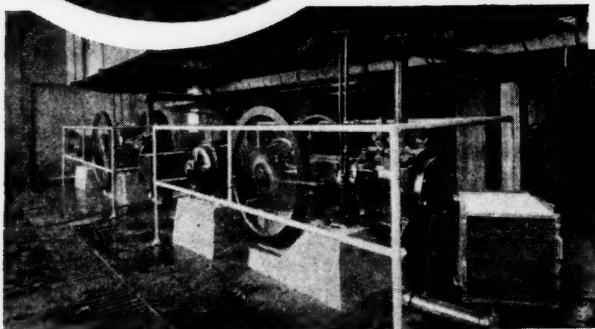
Right—Two-stage Nordberg compressors supplying air for lifting water in Memphis pumping station

Center—Schramm compressor combination, drilling rock for excavating a slush pond in Oklahoma City oil field

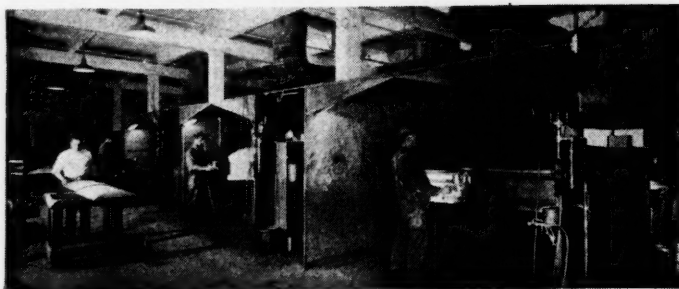
In Circle—Ingersoll-Rand compressed air operated lift used for switching cars in tunnel during construction of hydro-electric plant of Tallassee Power Company in North Carolina



Above—Cleco riveting hammer and pneumatic holder-on in boiler construction



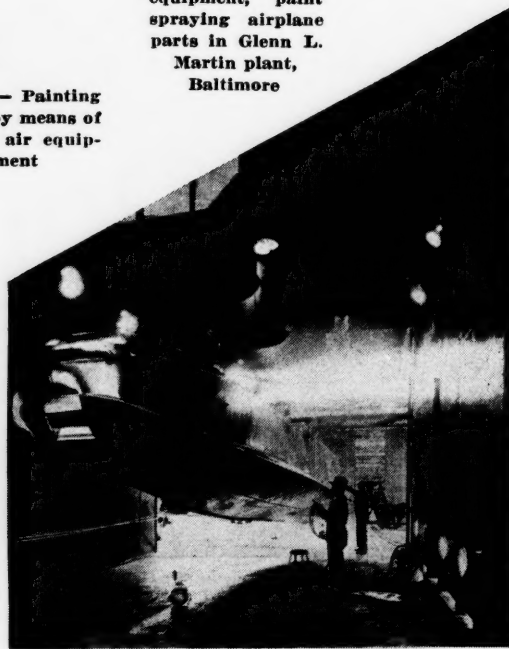
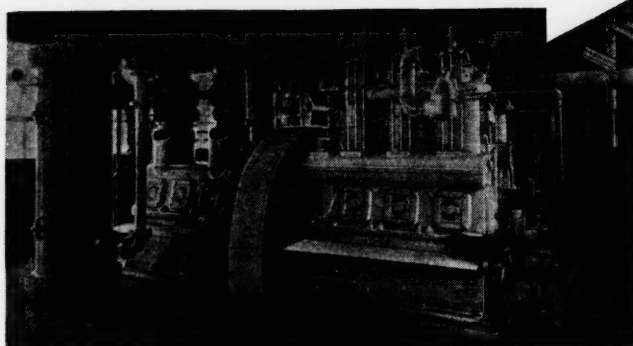
Left—Sullivan WG-6 single stage compressors in paper mill at Monroe, La.

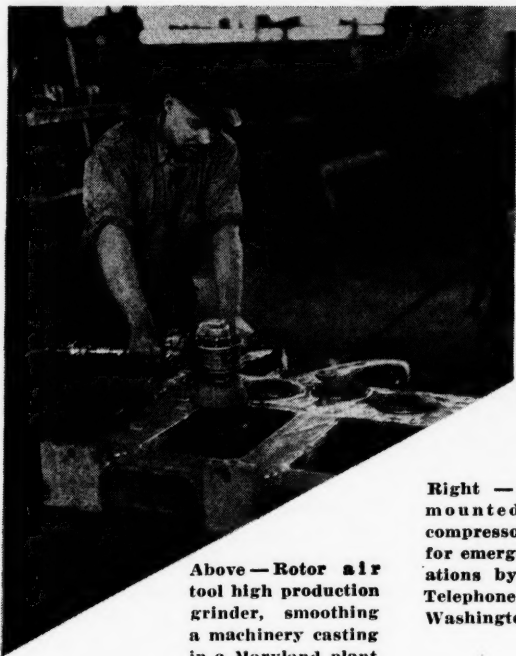


Below — DeVilbiss equipment, paint spraying airplane parts in Glenn L. Martin plant, Baltimore

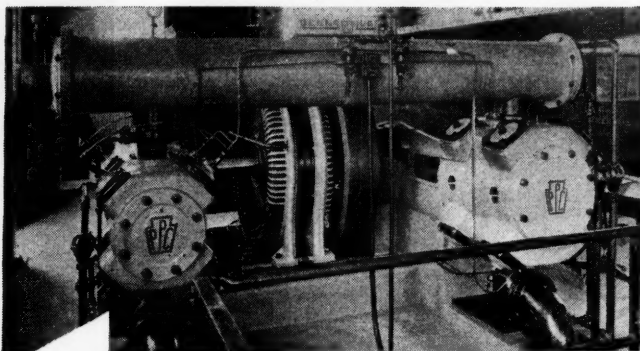
Left — Painting coffins by means of Paasch air equipment

Right — Chicago Pneumatic 2-stage compressors, each direct connected to Chicago Pneumatic gas engine



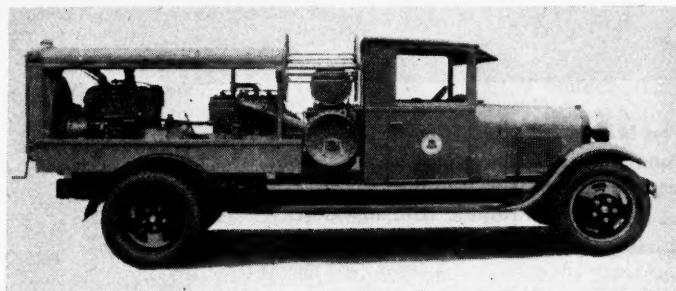


Above—Rotor air tool high production grinder, smoothing a machinery casting in a Maryland plant

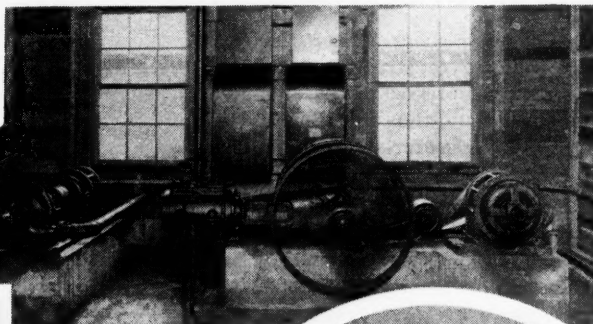


Pennsylvania air compressor used by Shell Petroleum Corporation, Houston, Texas

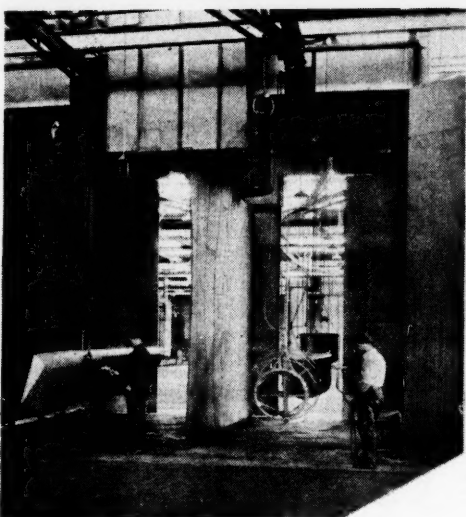
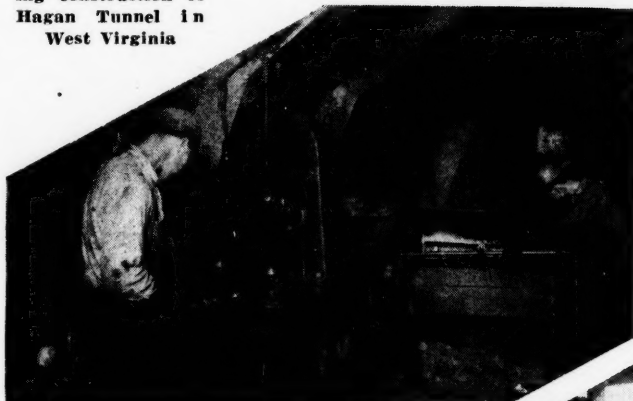
Right — Truck-mounted Schraam compressors used for emergency operations by C. & P. Telephone Company, Washington, D. C.



Right — This Pennsylvania air compressing unit is utilized for lifting water from an artesian well in Texas



Below — Sullivan drill-sharpening machine and oil heating furnace for drill steel, operated during construction of Hagan Tunnel in West Virginia

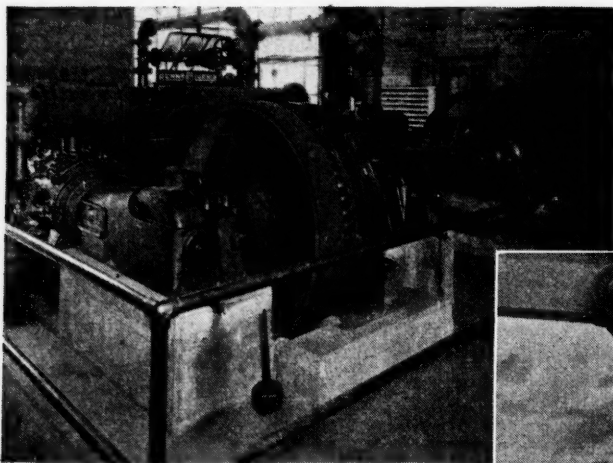


Above — Flanging flue sheets by Ingersoll-Rand compressed air at locomotive shops of Atlantic Coast Line, Tampa, Fla.

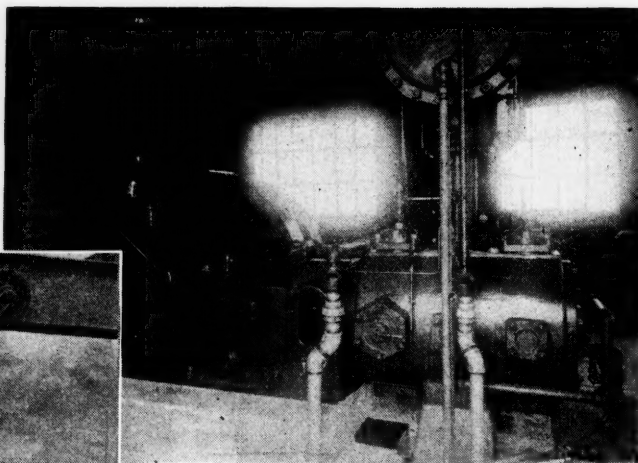
Left—Paint-spraying operations in a Baltimore airplane plant



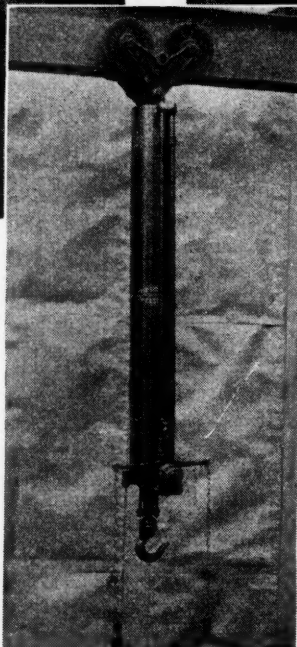
In Circle—Chicago Pneumatic portable compressor and rock drill, drilling hole preparatory to blasting during construction of mountain road in Tennessee



The Missouri Portland Cement Company uses Pennsylvania compressors to supply air to transfer cement, and for other purposes, at its plant in Prospect Hill, Missouri.



Worthington compressors, operating 24 hours a day, furnish air to hoists, pneumatic shop tools and for cleaning purposes in Alcoa, Tenn., plant of the Aluminum Company of America.



Type of Curtis pneumatic hoists installed throughout the Birmingham plant of the McWane Cast Iron Pipe Co.

sea to driving the hammer that rivets the steel in building construction high above the street, compressed air is aiding modern activity and thus contributes immeasurably to our material progress.

To enumerate and to describe all the varied duties performed by equipment based on the principle of compressed air would fill many pages of this publication. In the brief summarization following, however, there are presented some specific applications of compressed air equipment in manufacturing and construction operations in the states of the South.

In textile mills, compressed air forms an invaluable aid in humidification, a factor of importance in cloth manufacture. These mills, as do other manufacturing plants, use air for machinery cleaning, and other labor saving tasks. Foundries use the same force for ramming sand molds and for performing a variety of duties. Cotton gins, compresses, quarries, mines, water works, all utilize the air-compressing principle. Creosoting is another operation in which air power is applied, and spray painting and sand blasting are accomplished by the same means. Compressed air is also extensively employed in railroad work and in street car operation. At one plant the cement is transferred via a compressed air arrangement. Gas boosters operate by similar principle. Highway builders, especially, are extensive users of compressed air equipment, and many engineers and contractors find "harnessed" air indispensable in building operations, bridge and pier construction and other sub-aqueous work; in such operations as riveting in steel erection, and in construction of tunnels and other subterranean structures.

The Hagen Tunnel, constructed at Hagen, W. Va., for the Chesapeake & Ohio Railway, is an outstanding underground project in which compressed air was used, and in which Sullivan air compressors driven by Diesel engines figured prominently. Air equipment of this same type was used in driving a tunnel through solid rock in connection with a hydro-electric project in Tennessee, and during construction of several power dams in Texas, as well as in many other construction jobs and manufacturing plants throughout the South. Sullivan compressors supply air for doctors' and dentists' offices in the Post-Dispatch Building at Houston, Texas. Another at the Miami, Okla., water works is used for pumping; others aid in the manufacture of paper at a Monroe, La., plant, while a fleet of portable Sullivan compressors is operated by the city of Washington, D. C.

In construction of the Conowingo, Md., hydro-electric plant, both Stone & Webster, Inc., and the Arundel Corporation, two of the major contractors, utilized Ingersoll-Rand compressing plants for

accomplishing many tasks, including drill sharpening, excavating, and blockholing with Jackhammer drills for the draft tubes placed beneath the power house. Contractors on the Santeetlah, N. C., hydro-electric project of the Tallassee Power Company used Ingersoll-Rand equipment, including Jackhammers for block hole work in the quarry operations, drills for tunnel construction and air lifts for switching cars in the tunnel work. Another Southern application of this make of equipment is in cutting marble at the M. C. Monday plant in Knoxville, Tenn. Ingersoll-Rand air compressors are installed also in the Tampa, Fla., shops of the Atlantic Coast Line, supplying power for such operations as the flanging of flue sheets, hammering boiler tubes after welding, and fine cutting.

A phase of air compressing becoming more widespread and important is its adaptation to the construction field by the Cement-Gun Co., Inc., of Allentown, Pa., in applying concrete in building. Through this process, which is understood to add to the cleanliness, fire-resistance and permanency of buildings thus treated, a mixture of sand and cement in the form of "Gunite" is applied pneumatically to any surface. The method has been utilized by the Atlantic Pipe Line Co. in construction of a number of buildings and pump houses. The American Bauxite Co. used it for building houses for its workers, and a pier shed at the Norfolk Army Base is of the same type of construction. Other projects on which the "Gunite" process was used include the lining of irrigation ditches in the Rio Grande Valley of Texas, and the lining of the reflecting lake of the Bok Memorial Tower at Mountain Lake, Fla. The "Gunite"

process also was used in construction of the Norfolk pier shed of the Chesapeake & Ohio Railway and the Portsmouth machine shop of the Seaboard Air Line. The Baltimore & Ohio Railroad carries on a continuous program of repairs to its brick-lined tunnels by this method.

Construction of modern highways is greatly dependent on portable compressed air equipment, one of the important uses being the cutting through right-of-way where rock is encountered. Among many types of such machines in the use of governmental agencies are the Metalweld-Worthington portables of 330-cubic feet air displacement per minute, owned by the State of North Carolina and operated in connection with construction of the Smoky Mountain Highway, near Smokemont in the mountainous region of western North Carolina. The State of Tennessee uses a Chicago Pneumatic Tool Company compressor and rock drills 3000 feet above sea level in this same region; and of the 74 compressors operated by the Virginia State Highway Department 67 are the product of Schramm, Inc., West Chester, Pa. The Schramm company has many other installations throughout the South, one of these being an unusual application—the operation of a Wolf portable timber saw at depths of from two to 25 feet under the waters of the Mississippi River. The Chesapeake & Potomac Telephone Co., at

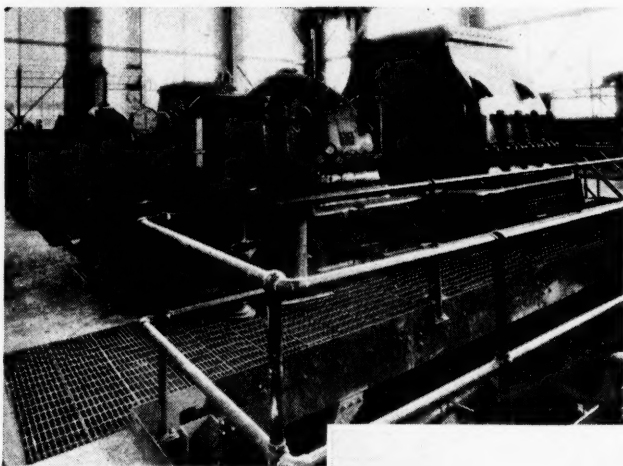
Washington, D. C., operate Schramm compressors mounted on trucks for emergency purposes. Out in Oklahoma the Indian Territory Illuminating Oil Co. operates this make of compressor for drilling rock; while down in Florida, Horace H. Burrell & Son of Philadelphia used such a compressor to operate the tools for carving and lettering on the Bok Tower.

A high production grinder produced by the Rotor Air Tool Co., Cleveland, Ohio, and operated in the Glen Arm, Md., plant of the F. X. Hooper Co., is exemplary of the many different types of tools operated in various lines of industry. This device smooths up the machine castings preparatory to applying the paint coat and thus eliminates the process of filing and stoning by hand. Drills operated by air are also produced by the Rotor Company. The Cleveland Pneumatic Tool Co. has numerous installations of air driven grinders in Southern foundries. Other "Cleco" tools are the riveter and holder-on, an installation of which is now in use in constructing boilers of the Hedges-Walsh-Weidner plant, Chattanooga, and the "Cleco" sand rammer for making foundry molds. Among Southern installations of the light pedestal riveter of the Canton Pneumatic Co., Canton, O., are those at the Naval Powder factory, Indian Head, Md., and in the plant of the

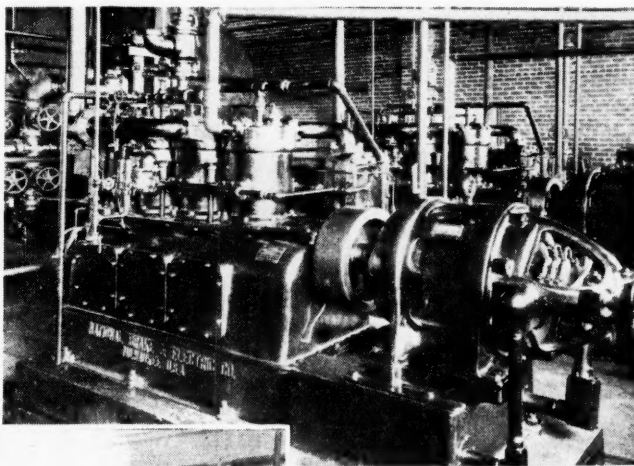
Hughes Tool Company at Houston, Tex.

Compressed air plays an important part in the treatment of ties with preservatives at the Charleston, S. C., plant of the Carolina Wood Preserving Co., which has installed 210-cubic feet displacement Westinghouse-National compressors for supplying air at a pressure of 350 pounds. Painting by the spray method, another operation in which harnessed air figures prominently, is illustrated by an installation made by the DeVilbiss Co., Toledo, O., for painting airplane parts in the Baltimore plant of the Glenn L. Martin Co. The larger airplane parts are sprayed in specially constructed booths, while the smaller items are painted in three and eight-foot standard booths. The Paasch Airbrush Co., Chicago, has installations in the South for spray-painting coffins, gasholders and other industrial operations and structures. The Curtis air hoists operated in the Birmingham plant of the McWane Cast Iron Pipe Co. illustrate another use for compressed air. In the category of these devices might be included the Quick-As-Wink valves and valve couplings manufactured for air-operated equipment by C. B. Hunt & Son, Salem, O.

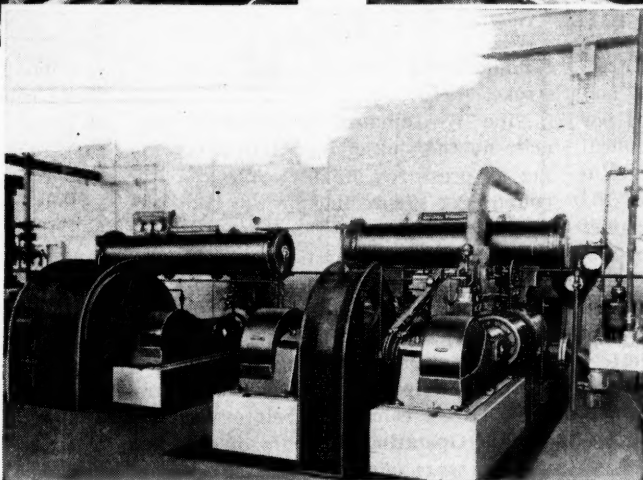
In addition to these applications there are many others, such as the two stage and the single cylinder Pennsylvania compressors used to supply air for trans-



Ingersoll-Rand turbo blowers in Gulf States Steel Company plant in Alabama



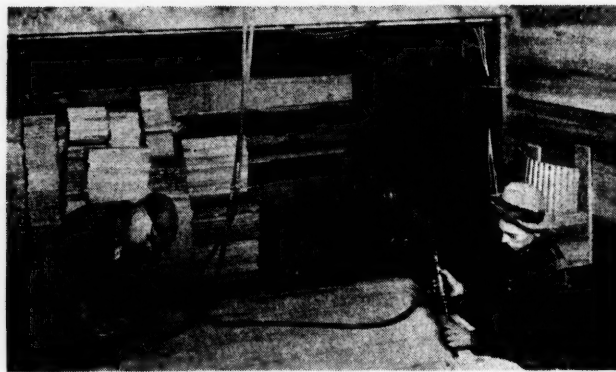
Right—Chicago Pneumatic compressor in plant of the American Bemberg Corporation in Tennessee



Westinghouse-National compressors for supplying air at 350 pounds pressure for tie treating in plant of Carolina Wood Preserving Co., Charleston, S. C.



Seaboard Air Line machine shops at Portsmouth, Va., constructed by Cement-Gun method of applying concrete by compressed air.



Two stone-carving tools operated by Type 30 Ingersoll-Rand compressor for cutting marble at the M. C. Monday plant in Knoxville, Tenn.

ferring cement and for general purposes at the Prospect Hill, Mo., plant of the Missouri Portland Cement Co., and other types of compressors of the same manufacture operating the humidifying system in the Baltimore cotton mill of W. E. Hooper & Sons; supplying air for the Houston refinery of the Shell Petroleum Corp.; for supplying water at the plant of the Southern Engine & Pump Co., Houston, and for general purposes in the Baltimore gas manufacturing plant of the Consolidated Gas Electric Light & Power Co. Also installed in this Bal-

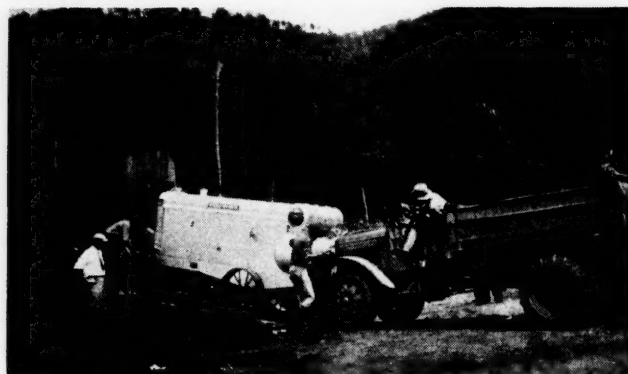
house motor operating at 1200 revolutions per minute, this unit revolves at a rate of 3940 each minute.

The Nordberg Manufacturing Co., Milwaukee, has a compressor installation in the New Parkway pumping station of the city of Memphis, Tenn. In this station, supplying air to lift the water, are five compressors of the two-stage type, each having a capacity of 2700 cubic feet per minute and delivering air at a pressure varying from 70 to 100 pounds per square inch. The high pressure air cylinder is 17 inches, the low pressure

another Worthington compressor is installed in the Alcoa, Tenn., plant of the Aluminum Company of America, which utilizes the air for general factory service and for hoists, pneumatic shop tools and cleaning. A 225-horsepower General Electric synchronous motor is directly connected to this duplex two-stage machine, which has a five-step unloader and automatic control. The American Bemberg Corp., Bemberg, Tenn., uses Chicago Pneumatic Tool Company compressors to insure a constant air pressure for control and transfer of the



The Cement-Gun process of pneumatic application of concrete was utilized on this cottage, constructed at Bauxite, Ark., for the American Bauxite Co.



Metalweld-Worthington portable compressor used in rock-drilling operations in western North Carolina, during construction of the Smoky Mountain Highway.

timore gas plant is a DeLaval three-stage gas booster. This centrifugal machine is driven at 4000 revolutions per minute through a DeLaval double helical speed increasing gear by a 1750-revolution per minute motor, and delivers 16,650 cubic feet of gas per minute against a seven-pound pressure. Another DeLaval centrifugal installation, of the two-stage type and also driven through the helical speed increasing gear, supplies air at the rate of 13,000 cubic feet per minute against a six-pound pressure for agitation in the treating tanks of the North Side Sewage Disposal Plant, Houston, Texas. Driven by a Westing-

cylinder being 28 inches, with a 40-inch stroke.

Nine Worthington compressors comprise another major installation, operating at pressures of 25, 45, 90 and 225 pounds per square inch in the Huntington, W. Va., plant of the Owens Illinois Glass Co. The lower pressures operate the bottle machines, the 90-pound compressor is used for air tools, sand blast and general cleaning, and the 225-pound machine furnishes starting air for a gas engine. Compressors in the plant are either direct connected, belt or texrope driven. Operating 24 hours of the day at a pressure of from 90 to 110 pounds

solutions in making the rayon yarn. These compressors operate continuously 24 hours a day and play an important part in a process where fluctuation of air pressure or air supply would cause serious loss and delay. At Lake Charles, La., the Vacuum Oil Co. uses this same make of compressor for boosting pressure, increasing the flow of oil wells and for other purposes. Three Ingersoll-Rand turbo blowers are operating at the plant of the Gulf States Steel Co., Alabama City, Ala., while three others of 75,000 cubic feet per minute capacity for blast furnace service are installed in another Alabama plant.

Trinity River Canal

WITH public and private expenditures by Dallas and Fort Worth aggregating \$30,000,000 for water supply, river straightening and turning basins, the project to canalize the Trinity River from those two cities to a connection with the intracoastal canal in Galveston Bay is being given serious study and consideration by the Federal Government. The plan was abandoned by Congress in 1921, but Major General Lytle Brown, chief of the United States engineers, recommended in 1929 that the project be reopened.

Construction of five great reservoirs with total capacities of 1,820,000 acre feet, twice enough for year around navigation of the river; building of the intracoastal canal from the Mississippi River to Corpus Christi, which will connect the Trinity with the 14,000 mile national inland waterway system, and passage of the Denison Act removing the restrictions to originating tonnage of five miles on each side of the river prompted General Brown's decision. Congress provided an appropriation for survey of the river as to its possibilities for navigation at the nine-foot depth.

The cost of the proposed improvement, including construction of locks and dams, straightening and widening with a 100-foot bottom width, is estimated

at \$30,000,000 to \$50,000,000 by civilian engineers. The present project calls for a nine-foot depth and extension of the original project approximately 60-river miles west of Dallas to Fort Worth. According to the consulting engineers, Hawley, Freese & Nichols, the Trinity River is a natural canal for barge transportation, possessing high banks composed of stable black soil and being comparatively narrow. It is not subject to sand bar formation and its fall is less than one foot per mile, the altitude at the river bed at Fort Worth being 504 feet and the distance to the mouth of the river approximately 570 miles.

The economic report of the Trinity River Canal Association, prepared by A. L. Reed, commerce counsel of the Dallas Chamber of Commerce, and E. P. Byars, traffic expert of the Fort Worth Chamber of Commerce, declares that not only will the canalization of the river be a commercial success, but also the estimated savings in freight charges to the territory benefited from the operation of the canal will pay a dividend of 30 to 50 per cent on the total cost annually.

While considering the total tonnage of 450,000,000 tons, the report concerns itself with 68,633,016 tons of bulky, slow moving and non-perishable freight, including the following commodities: Iron

and steel articles, grain and grain products, rice, cotton and cotton linters, lumber and related articles, lubricating oils and greases, cottonseed cake and meal, coffee, sugar, molasses and syrup, scrap iron and steel, machinery and boilers, salt, petroleum asphalt, cottonseed oil and lard substitute, paints and varnishes, sand and gravel, crushed and broken stone, newsprint and paper, building and prepared roofing, soap and washing compound, agricultural implements and parts, bagging and bags, fertilizer, industrial alcohol, sulphur and phosphate rock.

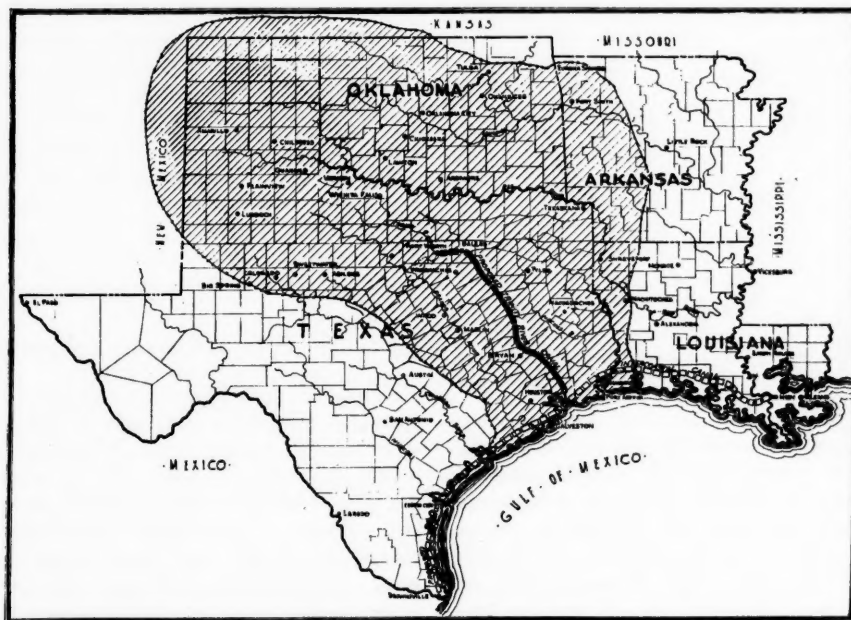
The report further points out that the territory reached by the Trinity River produces and consumes an enormous volume of tonnage per annum and that the tonnage produced, including about 14,500,000 tons of grain and about 6,250,000 bales of cotton from Texas and Oklahoma, moves in a direction which makes it available for Trinity River traffic. The tonnage consumed in the same section, according to the report, originates in territories affording long water hauls in connection with the Mississippi, the inland waterway system, the Intracoastal Canal and the Trinity River, the detailed study including such steel centers as Pittsburgh, St. Louis and Birmingham located on navigable streams.

The report also says that canalization of the Trinity River will bring about a great development of natural resources of the state. In east Texas, through the territory traversed by the Trinity or adjacent to it, there are great deposits of iron ore, much of it under lease.

Development of the Southwest will be greatly hastened by the canalization of the Trinity River, according to Representative S. Wallace Dempsey, chairman of the Rivers and Harbors Committee. Backers of the canal project also point to the remarkable progress of Houston and Corpus Christi since water rates were made available.

Belief that the canalization of the Trinity River will bring about a remarkable industrial development of the interior of Texas has been expressed by John W. Carpenter, president of the Trinity River Canal Association and also president of the Texas Power and Light Company. According to Mr. Carpenter, the Southwest is one of the few last industrial frontiers of America and, due to the decentralization of industry, the remarkable growth of the Southwest

Shaded Portion Shows Area That Would Benefit by Proposed Canalization of Trinity River from Fort Worth and Dallas to Intracoastal Canal in Galveston Bay



since 1900, its raw materials and tremendous possibilities, the canalization of the Trinity River will speed industrial development.

"Since the Southwest has 12 per cent of the consuming power of the United States and is manufacturing only 3.8 per cent, the industrial opportunities are tremendous. Cheap water rates through a canalized Trinity River will supply the impetus necessary for at least the establishment of that class of parent plants that depend upon cheap transportation instead of merely branches," Mr. Carpenter concludes.

Steel Institute Meeting

A program described as "one of the best and most constructive in its history" will be carried out by the Concrete Reinforcing Steel Institute at its seventh annual meeting, March 16 to 18, at Biloxi, Miss., with headquarters at the Edgewater Gulf Hotel. M. A. Beeman is secretary, Tribune Tower, Chicago.

Following a meeting of the directors on the morning of March 16, regional conferences will be held and the session will open in the evening with an address by President C. Louis Meyer and in-

formal remarks on "The Business Situation," by Rudolph S. Hecht, president of the Hibernia Bank & Trust Company, New Orleans. Election of officers will be held on the morning of March 17.

Among the speakers scheduled are Robert Gregg, president of the Atlantic Steel Company, Atlanta, "The Mill Viewpoint"; Judge Leon McCord, Montgomery, Ala., "The Bridge Builder," and W. H. Pouch, president of the Concrete Steel Company, New York, "Credits in Building Industries." Social events, sight-seeing trips and a golf tournament are on the program.

Noteworthy Activity in Fort Smith, Arkansas

IN spite of the world-wide business depression which many erroneously believe is at its height in Arkansas, the city of Fort Smith, on the extreme western border of the state, established through the Chamber of Commerce in the month of January four new industries having an aggregate payroll of \$250,000 annually.

In addition, this city of approximately 32,000 persons saw two industries expand. Since last October, the industrial payroll has been increased by \$350,000 annually through the establishment of new industries and expansion of old ones.

The Chamber of Commerce laid the groundwork for industrial expansion late in 1930. In comparatively a short time, four prospects had been found. First came the Jim Nelson Garment Company, the head of which came from Okmulgee, Okla. It started operations shortly after the first of the year with 45 women operatives, manufacturing dresses under the name of "Dixie Bell." Marketing facilities, with Fort Smith offering an outlet into the Southwest, were given as the principal reason for the removal of the plant to Fort Smith. The initial installation comprised 28 machines, and 8 more machines have been added since February 1.

Next came the Banfield Brothers Packing Co., which operates rendering and packing plants in four Southwestern states. The Banfield firm is now constructing a \$75,000 packing plant, which will offer a market to farmers for their livestock, lack of which has been the principal drawback to agricultural development in this section. The Chamber of

By
E. T. NOVAK,
Fort Smith, Ark.

Commerce counts the Banfield plant as one of the city's major acquisitions.

The third plant obtained in January actually was both the acquisition of a new one and the expansion of an old one. The Fort Smith Handle Co., which had operated here for several years, was completely reorganized, and Harry Wann, a lumberman of Mena, Ark., became president. In addition to enlarging the handle factory, Mr. Wann decided to build a stave and heading plant as an annex to the handle company. The handle plant which had been shut down for some time was re-opened. Then, on February 9, work was started on the stave and heading mill, which will employ approximately 35 men within the plant and 150 men in the surrounding territory cutting and hauling timber.

The last week in January, the Chamber of Commerce announced the acquisition of the fourth plant, a "dry ice" industry. It will be owned and operated by the Quix-Kold Co. of Oklahoma City, and will begin construction of a \$50,000 plant here April 1. C. C. Beasley is president. This company is just completing a similar plant at Norman, Okla.

In the meantime, Fort Smith's established industries were not standing still. The Oglesby Flour & Feed Co. early in January put into operation a feed mill, after installing new machinery and remodeling a grain elevator into a mill. Shortly after the Banfield firm announced its intention of coming here,

the Fort Smith Packing Co., a local concern headed by M. G. Bartlett, announced that it would construct this spring a \$20,000 packing plant.

In addition to obtaining new industries, the Chamber of Commerce has attempted to enlarge the retail and wholesale business of the city. In January the opening of 15 new stores or branch houses in a four-weeks period was reported.

Plant Unit Completed

Boncar, W. Va.—The first unit of the new plant here for the Electro-Metallurgical Co., New York, subsidiary of the Union Carbide and Carbon Corporation, has been completed by H. B. Agsten & Sons, contractors of Charleston, W. Va. This unit consists of an office building, service and locker building, machine shop and stores building and a 900-foot steel bridge. The cost of the unit was about \$450,000. The same contractors will begin work at once on another unit to cost about \$280,000.

\$9,557,000 North Carolina Bonds

Raleigh, N. C.—Bids will probably be opened March 17 by the State of North Carolina for the purchase of \$9,557,000 bonds, due 1934 to 1968. Funds from the sale of the securities would be used as follows: Highways, \$4,000,000; bridges, \$1,500,000; permanent improvements, \$4,247,000; building, \$60,000. Bidders will name the rate of interest.

Survey of County Roads in North Carolina

A MENDMENT of the State law to limit expenditure of gasoline taxes returned to the counties for construction and maintenance of roads, avoidance of further increases in tax levies until a financial plan can be developed for road improvement based on traffic importance, and a pooling of convict labor forces and road machinery purchases—these are the major recommendations of a report just published by the Federal Bureau of Public Roads, following an investigation of the financing and administration of county road work in North Carolina.

These recommendations, together with others, were based on a cooperative survey of county roads and local financial operations in the 100 counties of North Carolina made by the State Highway and Tax Commissions and the Federal bureau. The survey was made at the request of Governor O. Max Gardner. Recommendations of the three agencies may be grouped in two general divisions, those covering finance and those pertaining to administration.

The recommended amendment of the law to limit use of gasoline taxes to road purposes is coupled with suggestions that for the present no more local roads be transferred to the State system and that no increase of taxation be made until local roads are classified on the basis of traffic surveys and until a financial plan is developed to provide for their progressive construction and annual maintenance consistent with their traffic importance and the available resources, the State Highway Commission to have general supervision over improvement of roads of major importance.

Gas Tax Revenue Diversion on Grand Scale Practiced

Under the present law, counties may at their option use the gasoline tax for general county debt service or for road purposes. In 1930, the local road program was financed almost entirely from local tax levies. Although approximately \$3,000,000 was made available to counties from State funds, only 15 of the 100 counties spent their shares on roads. The others applied their contributions to the debt service fund used to pay inter-

est and principal on outstanding county obligations. The investigating agencies take the stand that the gasoline tax is imposed upon motorists to provide for highway improvement and upkeep, and that it should be used for those purposes directly and for no others.

The investigation revealed that, under the present county and township organizations, road funds in many instances are expended without regard to traffic importance of the particular roads improved. It also showed an enormous total expenditure for gasoline, oil and grease, probably because of the use of machinery heavier than required. The investigation indicated that a part of the cost of State and county law enforcement is being paid under the guise of road expense. Many counties also issue bonds for ordinary annual expenses of maintenance and repairs, a practice which, in the opinion of the investigators, should be abandoned.

State Highway Commission Supervision Urged

Recommendations for an economical and practical administrative program include the pooling of convict labor forces under control of the State prison and the pooling of road machinery purchases and equipment under control of the State Highway Commission; the abolition of all township and special road district organizations, with control of the roads by organizations having wider territorial jurisdiction; and the enlargement of authority of the County Government Advisory Commission to include supervisory and regulatory powers over budget and accounting affairs in the counties.

County Consolidation Viewed As Aid in Administering Highway Construction

Recognizing that the county unit is not sufficiently large to include areas of rich and poor development within the same administrative borders, and that the area of the average county and its road mileage are not sufficient to permit of full utilization of the force and equipment

required for economic highway operations, the agencies believe that at least half of the present counties would benefit by consolidation and the residents of the larger counties would still be in closer touch with the county seats than the inhabitants of the present counties were ten years ago.

With respect to pooling of convict road forces and of machinery for the common use of several counties comprising a group of sufficient size to permit an equalization of the financial burden and a more complete utilization of resources, they suggest as a practical measure that the grouping represented by the 20 judicial districts of North Carolina merits careful consideration.

Road Machinery Purchases on Uneconomic Basis

The survey showed that purchases, operation and upkeep of machinery for local roads cause much uneconomical expenditure. The agencies favor some adequate State supervision and control so that in purchasing machinery the road organizations may receive the benefit of the reduction in price for quantity purchases. Machinery could also be selected more in accord with actual needs and large units of equipment needed for occasional work only could be moved from one point to another to end waste by idleness.

Forty-seven counties of the State now maintain convict camps. To work county convicts economically, the agencies suggest that they be divided into two groups: Honor prisoners, who can be worked without guards, and can be used in ordinary maintenance work; and prisoners who have to be worked under guard. Large groups under guard would be organized by districts and would be under the control of the State Prison. Local road organizations could then obtain, when funds were available, groups of prisoners for construction work. The district camp could develop such other lines of work as would supplement the road work.

County roads, in general, the agencies find, are not built to the standards in width, alignment or grade set by the

State Highway Commission. Of the county mileage taken over by the State, the greater part requires widening, easing of curves or addition of materials. With the present additions of county roads to the State system, and with its present supply of funds, the Commission will not be able for many years to improve in accord with traffic requirements the mileage now under its control.

The mileage survey disclosed that the estimated total of 65,311 miles made in 1926 by county road officials was about 17,500 miles greater than the actual count of 45,090 miles, allowing for the transfer over the four-year period of 2645 miles to the State system.

The three agencies conducting the survey divided their work as follows: The State Highway Commission, operating through its nine divisions, collected road mileage data and prepared maps. The Tax Commission and the bureau, operating through field parties which obtained data from county records, collected data on highway income, expenditure, bonded indebtedness and tax rates.

The atlas of 100 maps, one for each county, shows the local mileage of the State and the location of the roads. It is perhaps the first complete set of county maps containing such information ever made for any State.

Making Braided Materials

Bogart, Ga.—C. L. Upchurch & Sons, Athens, Ga., have begun the manufacture of Jacquard lacing, tie-tape and other braided materials at their plant here, the local organization to be known as the Bogart Tape & Processing Co. Machinery for the plant was furnished by the New England Butt Company, Providence, R. I.

Elect Officers for 1931

At the recent meeting of the National Drainage, Conservation and Flood Control Congress, held in Dallas, Texas, the following officers were chosen:

President—B. F. Williams, State Reclamation Engineer, Dallas; first vice-president—Wm. Crooks, Industrial Engineer, Little Rock, Ark.; second vice-president—L. Mims, Freeport, Texas; treasurer—E. J. Jaques, American Steel & Wire Co., Kansas City, Mo.; directors—O. C. Kulicka, Greenville, Miss.; T. O. Forrest, Conslt. Engineer, Dallas; Denzill Doggett, Asst. State Drainage Engineer, Indianapolis, Ind., and W. G. Potter, State Drainage Engineer, Chicago, Ill.

The meeting place for the next annual session has not yet been determined. Several cities have submitted invitations.

Installs Diesel Engines

By W. W. RADEBAUGH, Baltimore, Md.

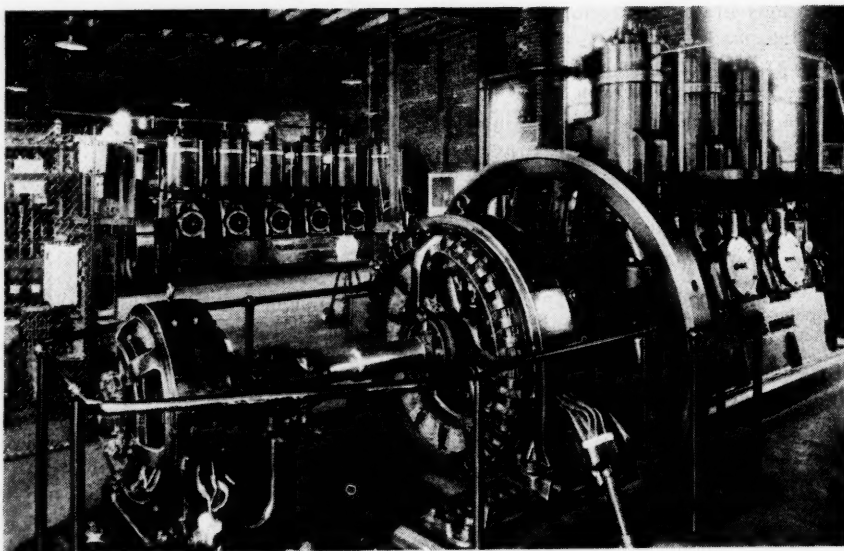
In 1926 the city council of Blackstone, Va., set about finding ways and means to reduce the cost of electrical service and at that time considered installation of a municipal power plant. After investigating possibilities the council became convinced they could install a Diesel generating unit or units that would offer either a material saving in cost of current or provide a source of income to care for certain city expenditures and thus reduce taxes.

Accordingly, in that year they erected a power plant and installed two Fairbanks-Morse generating units, of 180 horsepower capacity and 240 horsepower. The load grew until it became necessary in 1929 to add another unit to care for increased demand. Because of the performance of the Fairbanks-Morse equipment, it was decided to install a

new unit, of 360 horsepower, of this same make.

From the start the plant has consistently made sufficient net revenue to meet installments due on generating equipment and distribution system and has built up a surplus in the light and power fund. And the town has had uninterrupted service with exception of one 15-minute shutdown. Rates in effect are comparable to those prevailing throughout the state. Also current is sold to one local industrial manufacturing plant at a price of 1.4 cents per kilowatt hour which is considerably below the price for which it could otherwise be purchased.

As time goes on more customers are added and each customer seems to find it expedient to use more current. With the increased load, efficiency is improved and operating costs are reduced.



Interior of Power Plant at Blackstone, Va.

Wants Canning and Pickle Factory

L. B. McLeod, Williston, Fla., wires the MANUFACTURERS RECORD that farmers and business men of that community are interested in establishing a factory for canning vegetables and making pickles and kraut. He desires to communicate with operating companies who may be interested in the project and with manufacturers of equipment and supplies.

\$2,500,000 Building Planned

St. Louis, Mo.—Property on Twelfth boulevard, between Olive and Pine streets, 150 by 100 feet, has been leased by the Frank Building Corporation, recently organized by former Congressman Nathan Frank, as a subsidiary of the Manhattan-Dearborn Corporation, Chicago, and it is understood that plans are being made for a 29-story office building to cost about \$2,500,000. Preston J. Bradshaw, St. Louis, is the architect.

The Railroad Problem

A

Patron's
Viewpoint

By

J. F. JACOBS,

Jacobs & Company, Clinton, S. C.

THE writer has read with interest an article by Mark W. Potter in the MANUFACTURERS RECORD, intimating the need for an increase of freight rates as a solution for the railroads' problem, evidently on the theory of the old adage, "the hair of the dog is good for the bite." But, as a patron of the railroads, and not a railroad man, I do not find the argument convincing. For 32 years I have been in the advertising business in the South which brings me into intimate touch with conditions.

I am acquainted with some businesses which have been destroyed by excessive freight rates; others are staggering under the burden and struggling to solve the problem of distribution with at least enough gross profit to cover distribution cost. Under those circumstances, to raise freight rates appears to be suicidal. The railroads must be wrecked if their customers are wrecked, and the railroads will prosper only when their customers prosper.

From my own standpoint, as a railroad patron, freight rates should be generally reduced, instead of increased. They already are heavier than the people can bear. The three great factors affecting costs are labor, freight and taxes.

In the Southeast, one of the largest producers of freights is the textile industry, which must pay the freight on its principal item of raw material, cotton, and then absorb the freights in moving the cotton goods from mill to converter, and then to the market. The principal item consumed, raw cotton, has declined in price, but cotton goods have gone lower than cotton relatively, and on present labor, freight and tax standards. So, while the producer of raw cotton has suffered greatly, the textile mills still confront war-time wages, and worse than war-time taxes. Their position is typical of the position of many other manufacturers.

To add to their almost limitless bur-

den, higher freights might be the last straw that would break the camel's back. Should such an event occur, and occur generally in textiles, it would entail dreadful loss on some Southern and Eastern railroads.

If the question be asked: "How can the railroads lower freights when they hardly exist on the basis of the present freight rates?" the answer is that they should be released to run their own business, untrammelled by Government regulations, so that what they have to offer in service will find its market and those who manage the railroads will not be mere automatons. They should enjoy all necessary powers to match their responsibilities. Under such free competition as existed prior to Government regulation, the railroads would eventually recover—those of them which are well managed. And there would be better management if there were more responsibility.

At present railroad ownership means nothing. It may through stockholders' meetings appoint directors, and the directors may appoint managerial officers; but when all is done by ownership, it still remains a fact that the railroads are the mere puppets of Government, unable to accomplish their own salvation by intelligent efforts at solution of their own problems. It may further be said that any industry or interest which is taken out of the general social contact, so that it is no longer responsible to society, and is no longer able to adjust its charges to the needs of its customers, is a hopeless industry.

The greatest hope of the railroads is to appeal to the Government for freedom to manage their own affairs; establish their own rates; operate their business as ownership has a right to operate that which it possesses. If Government would release the railroads absolutely from its control, the railroads could save themselves. They would have to do so, however, by reducing freights, so as to de-

velop their customers through enabling their customers to exist. To reduce freights would reduce income in a measure, although it would increase tonnage.

The next step to a solution of the problem would be to insist upon lower wages and salaries. This is a basis on which all business will be readjusted before we are to see any great increase in prosperity. We cannot call back prosperity to protect high wages. We have been in the past, and we probably will in the future, always be forced to adjust costs to lowered markets. That will mean a struggle with labor organizations perhaps. If so, the public would sympathize with the railroads if the step were taken at the present time. Public sympathy would determine the issue. The railroads would win in an issue of this sort, for there must be many union members who realize that the railroads must survive in order that the unions themselves may survive.

The lowering of freight rates along with the lowering of wage scales would largely solve the railroad problem; but the lowering of taxes is equally insistent as a condition for railroad prosperity and, in fact, for the prosperity of all industry. It is rather absurd to take the view that taxes cannot be reduced. If our law makers would realize that they are ruining the country and causing great unrest, they could find ways of discontinuing many lines of expenditure.

The wrecking of our railroad transportation system would be one of the most terrible calamities which ever happened in the business world, perhaps the worst of all calamities. We are moving in that direction, not by reason of any fault on the part of railroad management or ownership, but purely by reason of meddling by Government in the regulation of railroads.

If Mr. Potter's plan of raising rates in a period of intense agricultural, industrial and financial depression is right, it were better that the railroads take the responsibility for its success than have the Government force it upon them. Then, if the plan fail, we might escape government ownership. This last calamity is assured if, through the Interstate Commerce Commission, the Government assumes responsibility for the success of the Potter plan.

\$1,000,000 University Program

Fayetteville, Ark.—A bill passed by the Legislature authorizes a bond issue of \$1,000,000 for a construction program of the University of Arkansas, which will provide a building for the medical school at Little Rock and a library and science building on the campus here.

LETTERS FROM OUR READERS

Work? There Is Work Everywhere!

Spur, Texas.

Editor Manufacturers Record:

The success of our people in this area in meeting the problems of unemployment and resultant distress impels me to outline our methods and achievements, as of possible help to other communities. I am confident the MANUFACTURERS RECORD will cooperate with us in broadcasting this information.

Work for the workless is not difficult to find, or to devise. Pay for such work is provided by an aggregate subscription of \$750 a month from merchants and other business men and salaried men and women. All the ladies' clubs have been organized into a civic club and the members are donating funds and lending practical aid in many ways. In fact, the people are responding nobly in aid of the project. The result: We have no charity beneficiaries; all are workers.

When the working man is out of work, of course, he is out of money and frequently out of food for his family. These men we are using for many kinds of work—cleaning streets, alleys and vacant lots; making street repairs, improving the water system, improving the parks by planting shrubbery and flower beds, and clearing away mesquite timber are some of the occupations. We are not only improving the appearance of the approach to the town, but also are improving the appearance of the town, itself.

Although a civil engineer, I have been selected to handle the employment details and have on my rolls 38 men who are responsible for the support of families and we give them work in relation to the number in their respective families. Work slips are issued at the end of each day of eight hours of work and these are presented to the Red Cross and Welfare Association, jointly. Requisitions are issued against these slips on merchants whom the workers may designate, for the equivalents in food. We pay no money to workers, and work slips must be endorsed by the recipients in the office; the slips are not transferable. By this plan, diversion of the slips to non-helpful or harmful uses is prevented. All earnings go to the relief of the workers and their families.

All the work, however, is not of public nature. Persons who have jobs to offer notify me as "employment agent," and I send out mechanics and men for garden work, yard work and other tasks.

Only two families now are dependent on our association. Only one man has been injured in any work. The morale of the men is fine. They seem satisfied with their various jobs and feel they are not charges on charity, but workers in temporary, though maybe unusual, employments until they are called back to their customary work. The men do not want charity; they want work, and they work gladly and conscientiously. Incidentally, we find employment for such of the negroes as need it.

We trust this little sketch may be of

helpful interest to other towns and communities. I may say that the West Texas Chamber of Commerce is broadcasting it through the organization's organ.

CHARLES WHITENER,
Acting as Director of Relief.

Water Power Site

Wagener, S. C.

Editor Manufacturers Record:

I would like to get in touch with anyone who might be interested in a water power site in South Carolina. The dam at the highest point would be 50 feet and it would be three-quarters of a mile long. The area of the lake formed would be about 5.3 square miles. The minimum steady flow of the streams in summer should yield 6000 horsepower day and night.

The site is five miles from the nearest railroad, five miles from Aiken, 38 miles from Columbia and 30 miles from Augusta, Ga.

P. K. LIVINGSTON.

Cooperation

Chamber of Commerce.

Roanoke, Va.

Editor Manufacturers Record:

It has given us pleasure at times to write you concerning development at Roanoke and of other matters which we thought would be of interest, and a recent letter from you typifies your efforts to be of service in the healthy development of the whole section.

Present conditions, we believe, justify one in studying the past diligently. The past years would indicate that the growth of the South will exceed that of the country as a whole and our conclusions are that Virginia will be in the forefront of Southern expansion. We feel confident that the industrial growth of southwest Virginia in the next few years will equal that of any portion of the country of like area.

Southwest Virginia is rich in natural resources; within economic shipping distance of half the population of the country; nearly one-sixth of the population reside within a day's travel by automobile or truck. With adequate labor supply of intelligent, loyal white natives and with a climate which hardly can be surpassed for industrial activities in the country, conditions are such that many of those who have not been in the region cannot quickly grasp the facts.

The MANUFACTURERS RECORD is stimulating the Southern development within as well as without, and is following a policy which is absolutely necessary to the proper promotion, and successful accomplishment of the great advancement which is possible. Count on us to cooperate with you whenever and in whatever way we can.

H. E. MECREDDY, Manager,
Industrial Department.

Opportunity for the Press

Allis-Chalmers Manufacturing Co., Inc.
New York.

Editor Manufacturers Record:

In a discussion of business conditions in 1928, I advocated, in the MANUFACTURERS RECORD, September 13, of that year, a general application of Judge Gary's Golden Rule of Business. Again we might consider some similar principles under conditions engaging the attention of the country.

Why is it that, with all the progress made in the past decade in business understanding and conduct, we seem unable to extricate ourselves more quickly from the morass of depression, despite assurances that "fundamental conditions are sound"?

As I recently set forth in the New York Times, perhaps never before in our history has such attention been given to underlying causes and effects, by trained minds. And I added:

Never before have we entered a "cycle of depression" so well prepared generally to meet business recession with safety. We now more fully understand the inexorable relation between supply and demand. We can sell only when we find buyers and, because of a psychology that dominates, buyers hesitate—to the injury of everybody.

What is required to change, to overcome the disposition of the day? We must change that state of mind.

Few newspapers recognize their responsibility in this respect. Catering to the public greed for sensation which they have developed in their clientele, they acquire a control over the communities they serve, for good or evil. Does not inciting improper curiosity—sensationalism—lead naturally to morbidness?—with its distorted judgment, its impaired nerve force, unreasonable feelings of despondency, suspicions or apprehensions of impending disaster. Does this not suggest, therefore, that the newspaper today can become our great friend in need? Where else can we find such a potent force for public good?—if rightly exerted.

Where can one find today a newspaper, prominent or otherwise, not given over to recording dire events and pessimistic utterances in relation thereto?—usually told with an absence of any faith in our future. If the newspaper would, it could induce our public to contemplate rationally, and to interpret vexatious and untoward happenings with fortitude and confidence; to learn that depression has its blessings, though maybe disguised, with their promise of better things; to anticipate a progress improbable under the soporific influence of prosperous ease and comfort.

If our reasoning be sound, then the press needs to be persuaded into a better realization of its relation to the public weal, its powerful influence on public perceptions and consequently its actual control over public psychology.

W. W. NICHOLS.

IRON, STEEL AND METAL MARKET

Steel Production Promises to Continue Its Increase

Pittsburgh, March 9 — [Special.] — Nearly all views expressed as to the state of the steel trade seem to be biased by unreasonable expectations of rapid improvement having been entertained. Steel demand has been increasing since the first of the year and there is promise of further increase this month, with chances of monthly increases for an indefinite time, except that some sort of a summer lull, hitherto invariable, may not be avoided.

In point of percentage, steel production has been increasing at more than its usual seasonal rate, for it has been the regular thing for production to increase during the first three or four months of a year, after a low December. Since steel production was decreasing rapidly during the late months of last year, in keeping with the receding stage of business, a disappearance of that influence is a piece of very good news, and that it has disappeared is plainly indicated by steel now having more than usual seasonal increase.

Increases in demand are not uniform in the different lines and they are not uniform as to districts, but the general steel pace does increase, with no backsets for a single month or even week. The automobile industry has been increasing its steel consumption more than total steel production has been increasing, but that industry was down to such a low point that even with its gains it is not taking as large a percentage of the steel that is being made as it did in 1928 and 1929.

Fabricated structural steel, on the contrary, has been taking more than its usual proportion of the steel made, and that is curious according to some economic theories of the past; that is, that depressions were brought about in large part by a curtailment of construction work. In 1928 and 1929 fabricated structural steel was very active and accounted for about 7.7 per cent of all the steel made. In 1930 as a whole it accounted for 9.1 per cent and in December and January it accounted for 8.5 per cent, somewhat less, but still a larger proportion than in the two big years.

While bookings and shipments in January as officially reported were under the 1930 average they were both above December, and some heavy bookings have been reported in the last two weeks, also much new work coming up for bidding.

A feature of the steel demand is its widespread character. Except for structural fabricating, the big lines of steel consumption are not doing as well as steel in general which means that what may be called the miscellaneous lines are holding up the better. Orders are small individually and numerous.

A class of consumption still to be heard from in a large way is line pipe laying. Line pipe has been out of season, there being heavy shipments last summer, tapering off to almost nothing in November. A few orders have been placed since the first of the year but spread over a period of more than two months they do not mean a great deal. Many piping projects are on foot. Some, for natural gas and gasoline, have been talked of for some time, while now there is an oil line in sight for the Sinclair Consolidated Oil Corporation, about 250 miles of 12-inch seamless, around 35,000 tons, to run from Rusk County, Texas, to the company's refineries in Oklahoma. Last year there was scarcely any line pipe buying until the latter part of March and then orders came with a rush for about three months.

Steel producers expect slow increase in steel demand for several months and then substantial increase in the second half of the year. The latter expectation is based on improvement in general business conditions, as the usual seasonal course of steel does not involve increase in the second half.

Steel prices are holding steady all along the line. Some strip mills have announced advances for second quarter but there is little expectation that many lines will advance, although some are below cost and advances are needed.

Steady Reduction in Surplus Pig Iron Stocks

Birmingham, Ala., March 9—[Special.]—Further reduction in the surplus stock of iron on blast furnace yards will take place during March. One producer of foundry removed upwards of 5000 tons of iron from its stock on hand and order books are still in fine shape. Books have not been opened on second quarter requirements of melters but the intimation is that as soon as consumers come into the market they will find readiness to accept contracts. Six blast furnaces continue on foundry iron, four on basic and one on special brand. Two blast furnaces are being relined and two others are being repaired. Republic Steel

Corporation expects to have its No. 1 furnace back in commission by the end of this month, the work of relining being pushed.

The melters indicate their order books are in good shape, with more business in sight. However, there is no change in the method of buying, all business being placed in small lots with early delivery specified. The make of the month has been fairly well covered, it is reiterated.

Base price of pig iron in the home territory is firm now at \$12, No. 2 foundry, with the \$12.50 price being sounded out. A few sales are reported for shipment outside the territory and some concession is being made on this business.

Cast iron pipe manufacturers, the steady melters, have received additional lettings recently and are bidding on good tonnage. Chicago and Los Angeles sections are working up estimates for considerable pipe, the orders to come in during the present month. While no tonnage worth mention is being carried on yards, warehouses are maintained at central points and these require pipe from time to time.

In steel there is still activity and the month's aggregate business will be satisfactory. No improvement is looked for in rail making, the railroads with few exceptions having placed their business; delivery is being spread over a little longer time than usual in order that operations may be continued. There is a better feeling in wire and wire products, and production is slightly better now than 30 to 60 days ago. Sheet and plate are in fairly good demand; structural fabricating shops are busy and will keep on their five and a half day a week schedule. Some of the larger contracts of the last few weeks will be taken up and orders filled as preliminary work on the various projects is pushed and everything made ready for the steel. Orders in hand for fabricated steel include plate for barges, steel for underpasses on railroads, steel for airports, bridges, state capitol and other lines. Louisiana will open bids this month and award contracts on three steel bridges for highways and also on 12 projects of highway development in which reinforcing concrete bars will be required.

Many rumors again obtain as to mergers. It is also to be heard that negotiations are on for erection of a large tubing mill here.

Government orders have been placed in the district for machinery and other products, the Hardie-Tynes Manufactur-

ing Co., Ingalls Iron Works Co. and other works participating in the business.

The coke market is holding up well, a little coke still being shipped out. Of the 1390 ovens in by-product works of the district fewer than 500 are idle. An increase in production is anticipated before the end of the month.

Goslin-Birmingham Manufacturing Co. announces splendid results from installation of the Brackelsberg furnace, the new development for making high-grade iron and special alloy castings. The name of Alligator Iron has been given the product and claim is that the iron is of greater toughness, higher strength, more uniform quality.

PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$12.00 to \$12.50; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$12.50 to \$13.00; iron of 2.75 to 3.25 per cent silicon, \$13.00 to \$13.50; iron of 3.25 to 3.75 per cent silicon, \$13.50 to \$14.00.

OLD MATERIAL

Steel rails	\$11.00 to \$12.00
Steel axles	14.00 to 14.50
Iron axles	14.50 to 15.00
Heavy melting steel.....	9.50 to 11.00
No. 1 cast.....	10.00 to 10.50
Stove plate.....	8.50 to 9.50
No. 1 railroad wrought.....	9.50 to 10.00
Car wheels.....	10.00 to 10.50
Tramcar wheels.....	10.50 to 11.00
Machine turnings.....	7.50 to 8.00
Cast-iron borings.....	7.50 to 8.00
Cast-iron borings (chem.)....	12.50 to 13.00
Rails for re-rolling.....	11.25 to 11.75

Action of Copper Helps to Develop Improved Sentiment in the Metals

New York, March 9—[Special.]—A better feeling exists in the metal markets, particularly in copper for which it is felt there will be a gradual advance in prices over the first half of the year. Tin sentiment is better since the world restriction scheme went into effect on March 1. Lead producers are encouraged by the rapid increase of production of automobiles which affords a good outlet for the malleable metal in storage battery form.

Zinc is being helped by the increased operations in the steel industry, now at 54 per cent of capacity, and this means a greater zinc consumption in galvanizing operations. Tin consumption is at the peak for several months because of gains in auto production and because of increased tin plate manufacture, an industry which is gaited now at 75 per cent of capacity.

It was proposed at a recent conference of western mining men that a "buy-a-bar-of-silver" campaign be started. It was suggested that banks, commodity houses and other forms of investment concerns buy commercial silver to store until prices go higher.

Copper has risen a quarter cent a pound since a week ago, to 10½¢ at home and 10.80¢ abroad. Zinc is up a trifle to 4.05¢ per pound, East St. Louis. Tin, on the other hand, declined to below 27 cents per pound, when February statistics revealed that the world's visible supply had increased nearly 6000 tons, one of the largest gains in history. Lead has been unchanged. Some of the minor metals have been weak. Thus antimony has dropped to 7¢ per pound, duty paid, while quicksilver is the lowest in several years at \$101 per flask of 76 pounds. Some zinc ore sold in the tri-State district recently at \$24 per ton, the lowest for several years, though the most prevalent price there is still \$25.

However it is believed that these recent reductions in a few metals prices represent the tail end of the depressed movement in commodities generally. Copper is usually the leader among the metals and copper has been headed upward. Export sales during February (a short month, containing also two holidays) were 60,000 tons as against 35,000 tons in January and 30,000 tons during December. Good domestic demand is needed this month to round out business. The Pennsylvania Railroad the past week bought a few million pounds of copper for electrification of its lines, while a telegraph company also bought its usual quarterly tonnage. Generally, however, domestic copper business continues quiet. Producers will try to hold present prices intact for the time being, or until better demand asserts itself.

Nearly all market observers believe copper prices are to continue to advance. One prediction has appeared in print to the effect that copper will be selling at

14 cents a pound by the middle of April, though this is regarded as extreme optimism.

February copper statistics will be issued late this week by the American Bureau of Metal Statistics and these are expected to be favorable, showing reduction in production, gains in shipments and reduction of surplus stocks. American deliveries of tin last month were 5100 tons, a very poor showing, while Straits tin shipments for the month were nearly 10,000 tons, also unfavorable. However these poor figures were due in part to the desire to ship as much tin out of the Far East as possible before the restriction plan takes effect.

The price of silver reached 27⅞¢ per ounce on Thursday, the highest quotation for several weeks. The National Metal Exchange at New York contemplates trading in silver futures, which would mean the only open and organized silver market in the world. This exchange so far deals only in copper and tin.

The price of lead is being held in check by unfavorable statistical showing.

Demand for zinc is quiet but producers of the slab metal have taken a firmer stand on prices, which are now 4.05¢ per pound, East St. Louis, or \$2 per ton above the recent low point of 3.95¢, East St. Louis.

Bids on Officers' Quarters

Hampton, Va.—Bids will be opened April 1 by the Constructing Quartermaster, Fort Monroe, Va., for construction of 20 double non-commissioned officers' quarters at Langley Field.



The Day Pulverizer Co., Knoxville, Tenn., is now manufacturing a new model portable crusher for the "Caterpillar" Twenty. These crushers are for use with "Caterpillar" tractors exclusively

AVIATION, AIRPORTS AND AIRWAYS

\$650,000 SEAPLANE BASE

Pan-American Airways Providing Modern Facilities at Miami

Miami, Fla.—Plans have been made by the Pan-American Airways, Inc., New York, for the construction of facilities here for the largest commercial seaplane base in the world, it is said, the project to represent an investment of more than \$650,000. The establishment of the base will mark another step on the part of the company to develop one of the largest air transport systems ever undertaken. Since its base of operations was moved to Miami nearly three years ago, international routes of the company have been expanded into a co-ordinated network of 22,000 miles of airways encircling the Caribbean area and extending around most of South America.

The proposed seaplane base will be established on Dinner key, Coconut Grove, on the original site of the United States Naval Air Corps seaplane base. It will occupy a plot of 33 acres extending to the waterfront and construction will be started at once under the supervision of Capt. L. L. Odell, chief airport engineer. The tract was acquired through negotiations with the city commission and under arrangements completed a portion of the property will be made available for a municipal seaplane base and park. Mayor C. H. Reeder broke ground for the project a few days ago and work has started on the first unit of a series of buildings, which will include a large steel and concrete hangar, 140 feet square, to cost \$55,000. The program calls for three other hangars of the same size and two larger units, to form either end of a V-shaped hangar

line and to be used for machine shops, maintenance, operation and storage. The central unit will be a passenger terminal, 136 by 69 feet, more than 3 stories high, to house facilities for the convenience and rapid clearing of international air passengers. A landing and loading platform to extend from the passenger terminal to the waterfront will provide for the simultaneous handling of four large air liners. Waters around the key will be dredged to a depth of 8 feet for the accommodation of 41-passenger planes, although the base will immediately accommodate 22- and 30-passenger planes.

\$1,500,000 Flying Field Buildings

Shreveport, La.—Bids will be opened March 27 in the office of Capt. George E. Lamb, Constructing Quartermaster, for a group of non-commissioned officers' quarters at the Barksdale flying field; on April 9 for enlisted men's barracks, and on April 10 for 40 buildings for commissioned officers' quarters. This group will embrace about 75 buildings, all of fireproof construction, to cost about \$1,500,000. Bids will be opened March 17 for a water distribution system. Plans have been received for a group of five double airplane hangars, for which no date to receive bids has been designated, but it is understood that bids will be invited as rapidly as arrangements may be made. Congress appropriated \$3,670,000 for the project.

Plane Factory for Hopewell

Hopewell, Va.—The Swanson Airplane Corporation, Swen Swanson, Jr., president, is equipping the second floor of the old Hopewell Motor Company building for manufacture of a cabin monoplane with dual controls. The product is a cantilever monoplane, the Swanson Coupe, Model W-15, powered by the Warner "Scarib," seven-cylinder, 110 horsepower radial engine. It is designed for stability, and is unlike the conventional type of aircraft, as it has no struts or wire bracing, permitting an unobstructed view to both pilot and passenger. The cabin construction gives full view from above: the design of a special wing truss not only allows overhead vision but permits anchoring the wings in such man-

ner as to dispense with external bracing.

The cabin has a wide door on either side and fuselage is of welded steel tube construction, with wings of customary wood construction covered with Flightex fabric. A landing gear of split type design, with oildraulic shock absorbers, removable axles, semi-balloon tires and brakes, is used. All structural parts are built in rigid jigs and are interchangeable without hand fitting.

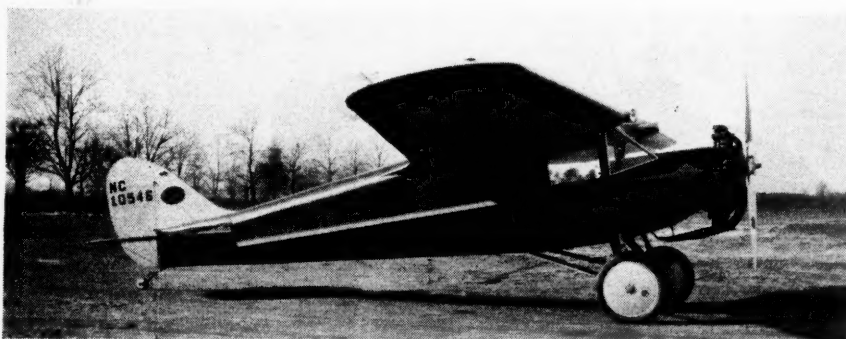
The plane was designed by Mr. Swanson and is offered in two models. Swen Swanson, Sr., is vice-president of the company and F. W. Freeman, secretary and treasurer. The officers, with Fred Hummel and A. Randall Hagner, comprise the board of directors. The company is capitalized at \$100,000.

Will Feature Small Planes

More than a half dozen models of small, light, moderately priced airplanes will be displayed at the National Aircraft Show in Detroit, Mich., April 11 to 19. The planes are designed for the average customer, it is said, with speeds up to 90 miles per hour, landing speeds as slow as 20 miles per hour, and a range of 25 miles to a gallon of gas. They will sell for from \$900 to \$1500.

Michigan-Texas Air Line

News dispatches from Detroit, Mich., state that a new company to be known as the International Air Express plans to inaugurate May 1 a passenger air service between Detroit and Brownsville, Tex., on the Mexican border. Planes of the company will connect at these points with passenger air lines extending to Montreal and Mexico City.



Swanson Coupe, Built Without Struts or Braces

NEW AND IMPROVED EQUIPMENT

Domestic Soft Coal Stoker

The Cleveland Stoker Company, Cleveland, Ohio, announces an automatic domestic soft coal stoker, which not only feeds coal into the furnace but also shakes the grates and removes the ashes. Reuben Hitchcock, president of the company, developed and tested the device which is now in quantity production. The stoker feeds a regulated amount of slack coal, by an intermittent mechanism, from



Feeds Furnace, Shakes Grate and Removes Ashes

a hopper into a burner where the coal is held while it is ignited and coked under forced air draft, the coke working onto automatically shaken grates where it is burned under forced draft to a minimum of powdered ash without forming clinkers, it is said. It is controlled by an adjustable electric clock and thermostat to insure even temperature and the intermittent coal feed may be set to feed from one-half a pound to seven pounds per cycle. The stoker may be quickly installed in existing furnaces, the present model having a capacity of 1500 feet of steam radiation, making it suitable for houses of 10 to 20 rooms. Plans are being made to build a smaller stoker for small houses and a third model of about twice the capacity of the present one. Sales connections are being established in major cities, with the Fox Smith Sales Co. handling the Cleveland representation.

Kipp Pneumatic Filer

As an addition to the list of pneumatic tools developed by the Madison-Kipp Corporation, Madison, Wis., the Kipp Air Filer has a range of operating speeds from 500 to 5000 strokes per minute, depending on the amount of air admitted by the operator's trigger valve. Kipp files are held by means of a hand-operated collet at the end of the spindle, the pistol grip giving the filer a natural position in the hand. An air cushion piston elimi-

nates vibration from its reciprocating action, it is said, and provides smooth cutting strokes. The filer weighs only one and a half pounds and was developed to replace slow and tedious hand methods.



Works Rapidly

Illuminates Athletic Fields

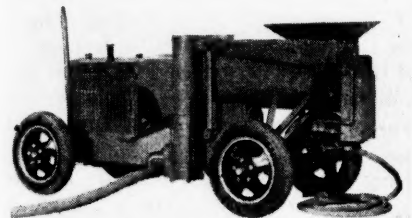
The Westinghouse Electric and Manufacturing Company has developed an open floodlight for athletic fields, identified as AF-20, and said to be specially suitable for illuminating football and baseball fields, golf courses, tennis courts, swimming pools and the like. It consists essentially of a weatherproof socket housing and socket, a porcelain enameled steel reflector and a mounting bow and bracket, and is adapted either to cross arm or to steel pole mounting. The floodlight is designed for use with a PS-52 lamp of 750, 1000 or 1500 watts.

Moon Tracks in Tractor Service

The Moon Track Company, Chicago, offers semi-crawler tracks for McCormick-Deering, Allis-Chalmers and J. I. Case industrial tractors. They are available for the McCormick-Deering 10-20 and 15-30 farm and orchard tractors and for models 20 and 30 industrial tractors, being particularly effective, it is said, in negotiating rough travel. Moon tracks are described as built of high quality

Mud-Jack to Raise Pavements

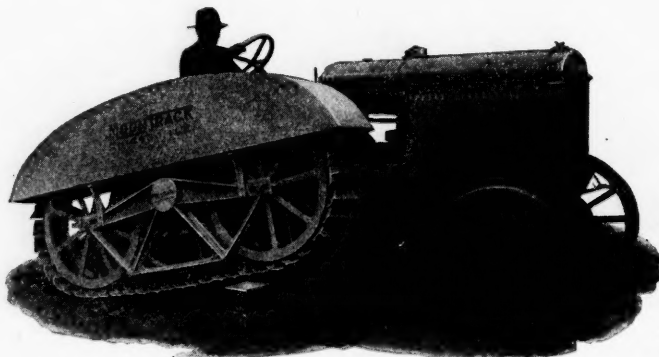
The National Equipment Corporation, Milwaukee, Wis., announces the N. E. C. Mud-Jack for raising sunken pavements. The device is a combination mixer and pump which corrects the pavement level by forcing mixed mud through holes cut in the slab. The method of operation contemplates a mixture of top soil and



Corrects Pavement Settlements

water with enough cement to take up the shrinkage. The mixture is pumped through holes drilled in the slab, pressure of the pump forcing the mud under the slab and causing it to rise. Normally, about three holes are drilled for each 8 feet of 18-foot road slab. While the required pressure is low, it is said pavements with dips of from one to eighteen inches may readily be returned to their original grade.

materials, with sprockets of solid manganese, with shoes of chrome alloy, heat treated; and frames of Tenso steel, high in manganese and also heat treated; of simple design and mechanism, easily attached to the tractor, with a flexibility that tends to smooth operation. Used in connection with the McCormick-Deering 10-20 or 15-30 tractor, the tracks are said to double the draw bar pull. They were exhibited at the recent St. Louis Road Show.



Designed to Operate in Any Soil

CONSTRUCTION DEPARTMENT

and

NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Ky., Louisville—City and Government will expend \$146,500 on improvements to Bowman Field, city's budget will include \$25,000 for additional conc. loading aprons; \$7500 for automobile parking space extension; \$5000 for lighting improvements; and \$11,000 for miscellaneous work; army will build hangar, administration offices, conc. runways and complete other improvements at cost of \$108,000.

La., Shreveport—Red River Construction Co., Shreveport, reported, has contract for filling Dry Bayou at Barksdale Field.

La., Shreveport—Ashton Glassell Co., Inc., 260 Cadillac St., Shreveport, low bidder at \$86,842, for Quartermaster warehouse, garage and maintenance shop at Barksdale Field. 2-5

Mo., Kansas City—See Sewer Construction.

Mo., St. Louis—Luscombe Co., capital \$50,000, incorporated; Don Luscombe, Moline, Ill.; manufacture airplanes.

Okla., Tulsa—City, reported, soon begin work on \$60,000 airport; main building of stucco; waiting room with vaulted ceiling 2 story high located in central section with 1 story wings extending on either side tower 52 ft. high; Leon B. Senter, Archt., Philtower Bldg., Tulsa. 2-12

Tex., Duncan Field, San Antonio—E. A. Tuebner, 329 Moore Bldg., San Antonio, reported, low bidder at \$12,700 for oil reclamation building for Constructing Q. M. 2-12

Tex., Fort Worth—Dallas Construction Co., 3106 Commerce St., reported, low bidder for moving 425,000 cu. yds. earth at Municipal Airport.

Va., Langley Field, Hampton—National Advisory Committee for Aeronautics, Langley Memorial Aeronautical Laboratory, Edward R. Sharp, Ch. Clk. and Property Officer, changed date of opening bids for construction of hangar Langley Field from March 9th to March 16; following contractors estimating: W. P. Thurston Co., Inc., 301 S. Fourth St., Harry B. Graham Constr. Co., John W. Cowper Co., Inc., State Planters Bank Bldg., A. J. Saville, Electric Bldg., and Davis Bros., Inc., 1716 Summit Ave., all Richmond; Day & Zimmermann, 112 N. Broad St., and Austin Co., 1015 Chestnut St., both Philadelphia, Pa.; J. B. McCrary Co., Citizens & Southern Bank Bldg., and A. K. Adams & Co., 542 Plum St., N. W., both Atlanta, Ga.; A. H. Gulon & Co., 256 W. Main St., Gastonia, N. C.; Thomason & Bartholomew, Piedmont Bldg., V. B. Higgins, Kinney Bldg., J. A. Jones Constr. Co., Commercial Bank Bldg., Southern Engineering Co., Little Pittsburgh, all of Charlotte, N. C.; H. K. Ferguson Co., Hanna Bldg., Cleveland, O.; Batson-Cook Co., West of Pint, Ga.; Hughes-Foulkrod Co., 421 Seventh Ave., Pittsburgh, Pa.; W. P. Rose, Wayne Natl. Bank Bldg., Goldsboro, N. C.; Fanning & Sweeney, Jefferson Bldg., Angle-Blackford Co., American Bank Bldg., both Greensboro, N. C.; Worsham Bros., Empire Bldg., Knoxville, Tenn.; North-Eastern Construction Co., Nissen Bldg., Winston-Salem, N. C.; Fiske-Carter Construction Co., 121½ W. Main St., Spartanburg, S. C.; W. F. Martens, Langley Field; McClintic-Marshall Co., Baltimore Trust Bldg., Baltimore, Md.; W. C. Spratt, Fredericksburg; E. B. Tazewell, 708 W. 21st St., Norfolk; J. F. Barbour

& Sons, Colonial-American Natl. Bank Bldg.; Virginia Bridge & Iron Co., both Roanoke; J. D. Davis; Harwood Construction Co., both Law Bldg.; Virginia Engineering Co., First Natl. Bank Bldg., all of Newport News; Newport Contr. & Engr. Co., Lee Hall; Tucker & Laxton, Indp. Bldg., Charlotte, N. C. 2-26

Va., Norfolk—E. E. Weddle Co., Norfolk, reported, has contract at \$24,609 for constructing addition to plumbing shop at Hampton Roads Naval Operating Base; S. S. Toler & Son, Rocky Mount, contract for building addition to pattern shop. 2-19

Bridges, Culverts and Viaducts

Proposed Construction

D. C., Washington—District Commrs., Dist. Bldg., open bids Mar. 25 for removing conc. sidewalk and roadway slabs, removing portion of conc. jacketed steel floor system, replacing steel work removed with new conc. jacketed steel beams and placing new conc. sidewalk and roadway slabs on bridge in line of New York Ave., over Washington Terminal tracks.

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Dist. Bldg., has low bid from Consolidated Engineering Co., 20 E. Franklin St., Baltimore, Md., at \$524,596, for Klinge Valley bridge. 2-19

Ga., Augusta—State Highway Bd., Searcy B. Slack, Bridge Engr., Atlanta, plans 1650-ft. trestle approach to present Sand Bar Ferry bridge, \$125,000.

Kentucky—State Highway Dept. receives bids for 2 bridges. See Roads, Streets and Paving.

Louisiana-Texas—Louisiana State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, and Texas State Highway Comsn., Gibb Gilchrist, Engr., Austin, build bridge over Sabine River where Louisiana Highway 7 meets Texas Highway 87; bill signed by President. 12-16-30

La., Harvey—See Miscellaneous Construction.

La., Monroe—State Highway Comsn., H. B. Henderlite, Engr., Baton Rouge, has plans approved by War Dept., Washington, for bridge over Ouachita River.

La., New Orleans—New Orleans Public Belt R. R., owned by City, reported, probably have plans out in June for substructure and superstructure for \$15,000,000 railroad and vehicular bridge over Mississippi River; Modjeski, Masters & Chase, Engr., 121 E. 38th St., New York.

La., Shreveport—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, authorized by War Dept., Washington, to build bridge over Red River. 10-16-30

Maryland—State Roads Comsn. receives bids for 2 bridge projects. See Roads, Streets and Paving.

Md., Baltimore—City, H. F. Lucke, Bridge Engr., has low bid from W. C. Briddel, 100 N. Eutaw St., at \$119,900, for Baltimore St. bridge over Gwynns Falls. 2-26

Missouri—State Highway Comsn. receives bids for 18 bridges. See Roads, Streets and Paving.

Mo., St. Louis—City, Bd. of Public Service,

has preliminary plans for 2 rein. conc. tile lined underpasses, each 110 ft. long, 10 ft. wide, 100 ft. high, south line of Market St. under 12th Blvd., and east line of 12th Blvd. under Market; \$48,000.

Tennessee—State Dept. of Highways and Public Works has low bids for 5 bridges. See Roads, Streets and Paving.

Tex., Dallas—Dallas County, Charles E. Gross, County Auditor, opens bids Apr. 2 for repairing Dallas-Oak Cliff viaduct; Rollins & Clinger, Dist. Engr., Hall of Records Bldg.

Contracts Awarded

D. C., Washington—Arlington Memorial Bridge Comsn., Navy Bldg., Washington, let contract to North Carolina Granite Corp., Mt. Airy, N. C., at \$185,000, for granite for entrance to cemetery, of Arlington Memorial bridge project. 2-12

Ga., Augusta—Charleston & Western Carolina Ry., subsidiary of Atlantic Coast Line R. R. Co., J. E. Willoughby, Ch. Engr., Wilmington, N. C., build bridge over Savannah River, Sandbar Ferry; 3 steel truss spans, horizontal swing draw span, total length of steel 667 ft., with wooden trestle approaches, 2867 ft.; total length 3729 ft.; consists of 5 steel truss spans, 8 steel girder spans, bascule draw span; base of rail is to be raised 4 ft. to provide for floodway; steel spans let to American Bridge Co., 71 Broadway, New York; masonry and conc. trestle to be built by Charleston & Western Carolina construction forces.

Mo., Boonville—Missouri-Kansas-Texas R. R. Co. of Tex., F. Ringer, Ch. Engr., St. Louis, let contract to American Bridge Co., 71 Broadway, New York, for design, fabrication and erection of new steel superstructure for bridge 191.1 over Missouri River; conc. substructure complete; superstructure to be designed for Cooper's E-70 loading and will consist of 3 500-ft., one 408-ft. vertical lift and 247-ft. through river connected truss spans and 60-ft. through plate girder; lift span will provide clear horizontal opening of 400 ft. for river navigation and when raised will have vertical clearance of approx. 57 ft. above low water; to be interlocked with automatic block signals and will be electrically operated and controlled automatically with safety devices; work in direct charge of R. M. Stubbs, Bridge Engr., under supervision of chief engineer. 1-29

Tex., Amarillo—City Comsn. let following contracts in connection with N. Fillmore St. subway: 550,000 lb. rein. steel, Sheffield Steel Corp., Kansas City, Mo., \$11,550; sewer pipe, Clowe & Cowan, Inc., 401 Harrison St., \$1687; cement, Long-Bell Lumber Co., 212 W. Third St.; Panhandle Lumber Co., 601 Tyler St., and Amarillo Lumber Co., 501 Washington St., \$17,150; lumber, Roberts & Oliver, 1200 W. Sixth St.; Brazelton Lumber Co., 200 N. Fillmore St., and E. S. Burgess, 418 Tyler St.; sand and gravel, Western Sand & Gravel Co., 916 Tyler St., and Texas Sand & Gravel Co., Inc., 96 Harrison St., \$14,442; bridge under tracks of Chicago, Rock Island Ry. Co., W. H. Petersen, Ch. Engr., Chicago, Ill., and Fort Worth & Denver City Ry. Co., R. C. Gowdy, Ch. Engr., Denver, Colo. 12-18-30

Texas—State Highway Comsn. let contracts for 11 bridge projects. See Roads, Streets and Paving.

Canning and Packing Plants

Texas—Texas Citrus Fruit Growers Exchange, John H. Shary, Pres., Brownsville, reported, plans \$1,000,000 construction program, including packing plants at Brownsville, Harlingen, Santa Rosa and several other Valley points; F. C. Whittlesey, Field Mgr.

Tex., Palestine—Lions Club, W. C. Quick, Pres., reported, negotiating for establishment of canning plant.

Clayworking Plants

W. Va., Charleston—Standard Brick and Supply Co., 813 Kanawha St., plans rebuilding burned plant.

Coal Mines and Coke Ovens

Tenn., Crossville—Cumberland Coal Co. increased capital to \$50,000.

Va., Roanoke—Stone Branch Coal Corp. incorporated; R. H. Wilson.

Concrete and Cement Plants

Mo., Cape Girardeau—Marquette Cement Mfg. Co., Marquette Bldg., Chicago, Ill., will shortly begin work on extensive repairs and changes in machinery and equipment at Cape Girardeau plant; work contemplated includes rehabilitation of grinding department and of method of handling and drying raw materials for this department; complete revamping of clinker grinding department; new improved system for handling and cooling clinker to replace the old; kilns and boilers to augment or replace old style boilers now in use; improved power generating units to replace old present style equipment; and complete overhauling of plant in general; Burrell Engineering & Construction Co., 1 N. Canal St., Chicago, Ill., are designing and construction engineers; work on boilers and in power department is under supervision of Neiler, Rich & Co., 431 S. Dearborn St., Chicago, Ill., Engrs. 3-5

Cotton Compresses and Gins

Fla., Jacksonville—Anderson & Clayton, Cotton Exchange Bldg., Houston, Tex., reported, acquired city cotton compress and warehouse on Talleyrand Ave.

S. C., Greenville—E. W. Montgomery, Poinsett Hotel, reported, plans rebuilding burned wing of warehouse, Green Ave.

Drainage, Dredging and Irrigation

La., Arnaudville—Comms. of Arnaudville Gravity Drainage Dist. 17 of St. Landry and St. Martin Parishes let contract to Paul Erickson, Sebawaing, Mich., at 6.73 cents per cu. yd., for gravity drainage system, involving removing approx. 2,000,000 cu. yd.; M. J. Goudeau, Jr., Engr., Opelousas.

Okla., Oklahoma City—Oklahoma County, W. H. Ryland, call for bids in few days for main ditch and 3 laterals (dragline job), Wichter to Arcadia, \$70,000; Ralph S. James, Engr., Cotton Exch. Bldg. 3-5

Okla., Pauls Valley—Wild Horse Drainage Dist. No. 2 let contract to Kennedy & Overman, Pauls Valley, at \$0.1425 per cu. yd. for 122,000 cu. yd. excavation. 12-11-30

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Ark., Clarksville—R. A. Morgan and A. N. Hanna, reported, granted electric light and water franchise.

Ky., Bowling Green—Kentucky-Tennessee Light & Power Co., Bowling Green, and 61 Broadway, N. Y., has work in progress of new steam generating plant, completion scheduled for July 15, 1931; principal materials and equipment purchased to date are as follows: Struc. steel, Ingalls Iron Works, Birmingham, Ala.; rein. steel, Gulf States Steel Co., New Orleans, La.; brick, W. G. Bush & Co., 174 Third Ave., N. Nashville, Tenn.; masonry cement, Hy-Test Cement Co., Broad and Locust Sts., Philadelphia, Pa.; steel sash, David Lupton Sons Co., Philadelphia, Pa.; turbo-generators (2) and house turbines, Allis-Chalmers Mfg. Co., Milwaukee, Wis.; condensers, Ross Heater & Mfg. Co., Buffalo, N. Y.; condenser tubes, Bridgeport Brass Co., Bridgeport, Conn.; pumps, DeLaval Steam Turbine Co., Trenton, N. J.; crane, American

Crane Co., Friendship, N. Y.; heater, Cochran Corp., Philadelphia, Pa.; air compressor, Penna. Pump & Compressor Co., Easton, Pa.; generator air coolers, Allis-Chalmers Mfg. Co., Milwaukee, Wis.; 2 boilers, Combustion Engineering Corp., Chattanooga, Tenn.; boiler, Erie City Iron Works, Erie, Pa.; stokers, Combustion Engineering Corp., Chattanooga, Tenn.; superheaters, Superheater Co., East Chicago, Ind.; soot blowers, Diamond Power Spec. Co., 10340 Oakland St., Detroit, Mich.; fans, Buffalo Forge Co., Buffalo, N. Y.; feed water regulators, Northern Equipment Co., Erie, Pa. stacks, Pratt-Daniel Corp., 183 Madison Ave., New York City; switchboard, General Electric Co., Schenectady, N. Y.; motors, Allis-Chalmers Mfg. Co., Milwaukee, Wis. coal handling, Jeffrey Mfg. Co., Columbus, O.; piping, W. K. Mitchell & Co., Inc., 2940 Ellsworth St., Philadelphia, Pa. W. S. Barstow & Co., Inc., Engrs., 412 Washington St., Reading, Pa. 2-19

La., Oberlin—Capt. Welman Bradford, Guaranty Bank Bldg., Alexandria, Col. F. H. Wilmont, 1626 W. Magnolia St., San Antonio, Tex., reported, interested in power and irrigation project in Calcasieu and Whisky Chitto rivers to furnish hydro electric power to western Louisiana towns and for irrigation of hundreds of acres.

Mo., Caruthersville—City defeated \$90,000 bond issue for power plant. 2-5

Oklahoma—Oklahoma Gas & Electric Co., Oklahoma City, purchased electric properties serving 11 communities in Oklahoma; towns served are Stratford, Deer Creek, Nardin, Dougherty, Luther Agra, Tyron, Kendrick, Carney, Calumet and Sasakwa; properties were purchased from Lincoln Utilities Co. and United Power and Light Co., 231 S. La Salle St., Chicago, Ill.

Okla., El Reno—City may vote soon on \$225,000 electrical distribution bonds.

Okla., Fairfax—City voted not to issue \$1720,000 bonds for purchase or constructing light and power plant. 2-12

Okla., Vinita—City, reported, plans bond issue for light and power plant; Russell & Axon, Engrs., 6200 Eastern Ave., St. Louis, Mo. 1-29

Tenn., Franklin—Franklin Light & Power Co., reported, granted franchise to furnish light and power.

Tex., Fort Worth—City install white way system on E. Belknap St.

Tex., Temple—Texas Power and Light Co., Dallas, reported, will operate white way system; has 30 yr. franchise.

Foundry and Machine Plants

Okla., Okmulgee—Joplin Machinery & Electric Co., Joplin, Mo., reported, acquired plant and equipment of United Iron Works, Inc.; new company will be known as Inland Iron Works Co., L. T. LeBow, Pres.; operate manufacturing unit with aluminum, brass and bronze foundries.

Tex., Bryan—Stevenson Machinery Co., reported, rebuild burned plant.

Garages and Filling Stations

D. C., Washington—L. P. Steuart, Inc., 1401 14th St., N. W., H. D. Shipley, Pres., reported, construct 3 story, brick and conc. building 1436 P St., N. W., for office, sales room and service department; cost \$115,000; E. Denton, Archt.

D. C., Washington—Kent Automatic Garage & Washington Market Corp., being organized; John W. Newman, Mgr., Southern Bldg., Washington, and associates; construct \$5,000,000 project to include market, garage, storage, restaurant and recreational facilities. Tenth, Eleventh, H and I Sts., N. W.; building of steel and conc.; rough face brick; market section, 200x200 ft.; garage 100x200 ft.; 3 floors in market, first and second floors to have 150 stalls each, third floor for storage groceries; heating and refrigerating plants in basement; garage section will have accommodations for 1000 cars; Boyd, Able & Guggert, Archts. and Engrs., Otis Bldg., Philadelphia, will supervise construction; R. T. Lipscombe, Industrial Engr., American Natl. Bank Bldg., Richmond, Va., and Ambassador Hotel, Washington, also reported interested; plans establishing offices 700 Southern Bldg.

Ga., Atlanta—Wing Co-Operative Oil Co., Ellis and Courtland Sts., has plans by J. M. Russell, Archt., Standard Bldg., for shed and filling station; 2 story, comp. roof, tar and gravel roof; day labor.

Ga., Atlanta—Capitol Construction Co., Standard Bldg., reported, has contract for service station Ponce de Leon Ave. and Penn Ave., N. E., for Peters Land Co., Peters Bldg., Atlanta; 32x124x105 ft.; 1 story; brick walls; comp. roof; cost \$17,000; Felton Davis, Archt., 254 Peachtree Rd.

Ga., Savannah—C. I. Lanier erect filling station.

Md., Baltimore—Atlantic Refining Co., Keyser Bldg., reported, plans erection filling station, S. W. Cor. North Ave. and Johns St.

Miss., Vicksburg—Reliance Oil Co., First National Bank Bldg., incorporated; J. W. Gary, 924 Bowman Ave.

Mo., St. Louis—Rahmberg Motor Co. incorporated; Arthur G. Rahmberg, 1312 Hillside St.

Mo., St. Louis—Anburn-Cord Distributors, Inc., capital \$50,000, incorporated; J. S. Mitchell, Henry R. Boyer, 5130 Lexington St.

N. C., Asheville—Royal Tire Co., capital \$50,000, incorporated; E. S. Koon, 14 Griffing Blvd.

N. C., Beaufort—Loftin Motor Co., capital \$50,000, incorporated; Horace G. Loftin, Beaufort; Tiffany W. Loftin, Kinston.

N. C., Greensboro—Tucker Motors, Inc., capital \$100,000, incorporated; Charles A. Tucker, 409 W. Gaston St.

N. C., Nashville—Strickland Bros., Zebulon, reported, has contract for service station; Gulf Refining Co., lessee.

N. C., Rich Square—Motor Parts Co., capital \$25,000, incorporated; W. E. and E. G. Boone.

Okla., Guthrie—National Motors Corp., capital \$25,000, incorporated; S. G. Johnson, 1108 N. Dale St., Oklahoma City.

Tenn., Memphis—Ferguson Construction Co., Derron Bldg., has contract for garage for Southern United Ice Co., 325 Jefferson St.; brick walls, rein. conc. floors, steel sash, 125x136 ft., 2 story, tar and gravel roof, cost \$40,000; Hauker & Cairns, Archts., Court Square Bldg. 3-5

Tex., Palestine—Sinclair Oil Co., Tulsa, Okla., reported, plans leasing and improving Greenwood Bldg., cor. Oak and Houston Sts., for filling station.

Tex., San Antonio—Hilyer-Deutsch-Jarrett Co., 1309 S. Flores St., construct service station, Seventh St. between Alamo and Broadway.

Va., Norfolk—Perry Buick Corp., capital \$80,000, incorporated; Aubrey H. Perry, Waterlawn St.

Va., Petersburg—Motor Sales Co., capital \$15,000, incorporated; L. W. T. Bullifant, Colonial Heights.

Va., Petersburg—W. J. Moore, 9 W. Tabb St., erect filling station S. E. Cor. Adams & Franklin Sts.

Gas and Oil Enterprises

Ky., Covington—United Natural Gas Corp., capital \$250,000, incorporated; Clarence Rice, Henry J. Fedders.

Ky., Owensboro—Leviathan Oil and Gas Co., capital \$100,000, incorporated; J. R. Thomas, Charles A. Rogers.

Ky., Paducah—Standard Oil Co., Louisville, reported, constructing 4 bulk storage tanks of 13,000 bbl. capacity as initial development of river front terminal; installation of tanks by Graver Tank Mfg. Co., East Chicago, Ind.; will construct pipe line from river to tanks.

Mo., Elvine—Ozark Petroleum Products Co., capital \$25,000, incorporated; A. B. Carpenter, Farmington; Hugh Berber, Festus.

Mississippi—Cities of Hazlehurst, Wesson, Crystal Springs and Brookhaven considering granting of gas franchise. 1-1-31

Okla., Buffalo—State Fuel Supply Co., Trades Natl. Bldg., Oklahoma City, reported, granted natural gas franchise; let contract for construction of 4-in. supply line, 10 miles long to connect Sinclair well, southwest of city, with gas distribution system to be installed here; also installing gas distribution system at Laverne. 1-22

Okla., Ponca City—Continental Oil Co., Walter Miller, V. P. in charge of manufacturing, constructing 2 refinery units involving expenditure of \$325,000, completion before end of June; new additions to equipment include a pressed distillate re-running unit, and a gas absorption and absorbed gasoline stabilization plant, latter to operated in conjunction with a pressure distillate stabilization plant; at present time are dismantling 3 Shell stills in old lube oil battery to make

room for pressed distillate unit; new unit will consist of a tube furnace, fractionating tower, 2 side stripping towers and other necessary equipment, such as heat exchangers, etc.; will make possible run of from 3000 to 3500 bbls. pressed distillate daily through the unit; pressed distillate plant is to be constructed by Alco Products, Inc., New York; new gas absorption plant will be equipped to handle 6,000,000 cu. ft. of gas daily; gas absorption plant and stabilization plant are to be constructed by Soars & Lovelace, Inc., Kansas City, Mo.; plans completion of plants by May 1. 2-26

Okl., Tulsa—Advance Operating Co., capital \$100,000, incorporated; Ed L. Jones Tunt Bldg.

Okl., Tulsa—H. F. Wilcox Oil & Gas Co., 310 W. Sixth St., reported, plans preferred stock issue of \$2,000,000; portion to be used for improvements and expansion.

Okl., Oklahoma City—J. E. Mabey Oil Co., capital \$25,000, incorporated; Lon H. Cron, 831 E. Madison St., Oklahoma City.

Texas—J. D. Wrather and John Wrather of Amarillo Producers and Refiners Assn., Amarillo Bldg., Amarillo, reported, plans establishment of refinery at Longview and Overton.

Texas—A. O. Smith Corp., Milwaukee, Wis., reported, has contract for additional 100 miles of 24-in. gas pipe in connection with line Texas Panhandle to Chicago; Continental Construction Co., Professional Bldg., Kansas City, Mo., supervising construction. 1-29

Tex., Amarillo—Carson Lake Oil and Gas Co., incorporated; J. T. Moore, 1616 Polk St.

Tex., Amarillo—Federal Drilling Corp., capital \$30,000, incorporated; R. A. Burnett, Rule Bldg.

Tex., Beaumont—W. B. Flynn, Inc., capital \$100,000, chartered; W. B. Flynn, Jr., American Natl. Bank Bldg.

Tex., Graham—Lindsay Drilling Co., capital \$55,000, incorporated; R. W. Lindsay, J. W. Cole.

Tex., Houston—Edwards Drilling Co., capital \$15,000, incorporated; H. L. Edwards, 4409 Mt. Vernon St.

Tex., Mineral Wells—Waters-Rose Oil and Gas Co., incorporated; Bascom Waters, Hugh M. Thomas.

Texas—Sinclair Oil & Refining Co., Sinclair Bldg., Tulsa, Okla., reported, construct 265 mile pipe line to extend from Rusk County, Tex., to company's Oklahoma oil properties.

Tex., Tyler—Gene Constantine, 1330 Terrace Drive, Tulsa, Okla., reported, plans construction skimming plant with 6000 bbls. daily capacity near Taylor refinery; cost \$400,000.

Tex., Tyler—Ball Oil Corp., capital \$50,000, incorporated; G. M. Ball, Albert G. Hinn.

Tex., Tyler—Taylor Refining Co., Taylor, reported, let contract to Wyatt Metal & Boiler Works, Dallas, for tanks and other metal work for 5000 bbl. refinery; estimated cost \$400,000. 2-12

Texas—Yount-Lee Oil Co., San Jacinto Life Bldg., Beaumont, reported, construct 200 mile pipe line from Lathrop area in Gregg County to the coast; also reported acquired interest in Farrell-Moncrief Arkansas Fuel Oil Co.'s properties.

Texas—Yount-Lee Oil Co., San Jacinto Life Bldg., Beaumont, reported, acquired from John Farrell, W. A. Moncrief and associates of Fort Worth, interests in Farrell-Moncrief-Arkansas Fuel Oil Co.'s properties.

Texas—Wyatt Metal and Boiler Works, Dallas, reported, has contract for bubble towers for 2 refineries of East Texas Refining Co., at Longview and between Henderson and Overton. 2-19

Virginia—Virginia Gas Transmission Corp. and Columbia Gas Construction Co., temporary offices Charlottesville, both wholly owned subsidiaries of Columbia Gas & Electric Co., 61 Broadway, New York, reported, expend \$5,000,000 during next 6 months constructing gas line across State of Virginia; pipe lines originating in natural gas fields of eastern Kentucky near Pikeville, enter Virginia near Covington; will supply Lexington, Covington, Buena Vista and Clifton Forge; length of entire line 467 ft. 1-22

Va., Hampton Roads—McCay & Kirtland, 23 Mt. Royal Ave., Baltimore, Md., has contract at \$25,490 for oil storage tank at Naval Base. 3-5

Va., Roanoke—Petroleum and Gas Production Corp., capital \$100,000, incorporated; E. M. St. Clair.

W. Va., Webster Springs—Standard Oil Co. of New Jersey constructing storage tanks and warehouses for complete bulk station west end of Elk River bridge.

Ice and Cold-Storage Plants

Ark., Bentonville—Ward Ice Industry, 201 N. 10th St., Fort Smith, reported, acquired Bentonville Ice & Cold Storage Co.'s plant; plans rebuilding cold storage section.

Ark., Fort Smith—Quix-Kold Corp., C. G. Beasley, Pres., 408 Oklahoma Savings Bank Bldg., Oklahoma City, Okla., reported, has sketches by J. B. Klein Iron & Foundry Co., 1004 West Second St., Oklahoma City, Okla., for dry ice plant; stucco; rein. conc.; cost \$45,000. 2-12

Miss., Amory—Mississippi-Alabama Utilities, Inc., capital \$100,000, incorporated; J. O. Prude, G. W. McCullen.

Mo., Kansas City—Western Ice Service Co., capital \$200,000, incorporated; Cornelius Roach, Jr., Commerce Bldg.

N. C., Goldsboro—R. G. Shipp, 1404 E. Walnut St., reported, has contract for ice plant.

Tex., Brownwood—Harkrider-Keith-Cooke Produce Co., 1801 Jones St., Fort Worth, reported, acquired cold storage plant of Crystal Ice Co.

Tex., Port Arthur—N. J. Hebert, 1748 Sixth St., reported, construct \$35,000 ice plant with capacity of 25 tons daily; rein. conc. and hollow tile with fireproof roof.

Va., Fredericksburg—Interstate Ice Corp., capital \$50,000, incorporated; Amos V. Pankey, Harrisonburg.

Iron and Steel Plants

Md., Baltimore—Dietrich Brothers, 220 E. Pleasant St., will take sub-bids in about 4 weeks on following in connection with fabricating plant, Reese and Twenty-eighth Sts., including conc. piling, capping, conc. floor work, tile walls, conc. sills, wood roof, slag roof, lighting and wiring, heating, plumbing, painting and glazing, steel sash, spacing machine, electric hoist, pantograph machine, milling machine, grinder, straightener, riveting equipment; construction by owners. 1-22

Land Development

Fla., Jacksonville—Atlantic Operating Co., incorporated; R. G. Williamson, 3019 St. Johns Ave.

La., New Orleans—Bd. of Commrs. of New Orleans City Park Improvement Assn., reported, has plans by Edward H. Bennett of Bennett, Parson & Frost, Landscape Archts., 80 E. Jackson Blvd., Chicago, Ill., for development program for City Park Annex; expend \$3,000,000 for roadways, water areas, open air recreational facilities, municipal stadium, monuments, trees, etc. 2-5

Md., Baltimore—Monumental Homes Improvements Co., Inc., 519 N. Eutaw St., chartered; Ellis M. Herman, 1723 N. Payson St.

Md., Baltimore—Beckley-Norris Realty Co., capital \$15,000, incorporated; Wm. B. Norris, Jr., 5300 York Road.

Md., Baltimore—Locheam Country Club, Inc., chartered; Joseph Berman, 1320 N. Charles St.

Md., Baltimore—Topabrie Co., Inc., chartered; Walter L. Briscoe, 822 W. 36th St.

Md., Baltimore—Sillery Bay Development Co., Inc., 1910 Windsor Ave., chartered; DeWitt E. Kemp, 3111 Westwood Ave.

Md., Baltimore—See Roads, Streets and Paving.

Md., Sykesville—Springfield Cemetery Co., Louis P. Schultz, reported, plans development of cemetery; grade; construct walks and roads and entrance gates.

Mo., Kansas City—Shoreline Land & Investment Co. incorporated; Wm. B. Lathrop, 36 W. 58th St. Terrace.

Mo., Kansas City—See Sewer Construction.

Tenn., Knoxville—Tennessee Land Co. incorporated; W. D. Samples, Route 4.

Tenn., Memphis—Delta Agricultural Corp., capital \$100,000, incorporated; J. T. Ferguson, Linden Station.

Tex., Houston—W. H. Holland, Pres., Fidelity Bond and Mortgage Co., of Texas, Post-Dispatch Bldg., reported, develop 40 acres on Westheimer Rd. for subdivision; construct 2 miles conc. and asphalt streets; initial investment \$500,000.

Tex., Lubbock—City, J. Bryan Miller, City Mgr., plans improvements to Booker T. Washington Park and park in McCrummen second addition.

Tex., San Antonio—Bear Creek Land Co., incorporated; R. T. Pruitt, 429 E. Evergreen St.

Tex., San Juan—Adams' Gardens Nursery Corp., B. L. Miller, develop 9000 acres in citrus groves; will not erect buildings or plants. 2-26

Va., Fredericksburg—See Roads, Streets and Paving.

Va., Norfolk—Lake Bradford Terrace Co., Inc., chartered; George W. Robbins, Jr., Lake Smith, Va.

Va., Norfolk—South Side Holding Co., Inc., chartered; Munro Black, Law Bldg.

Va., Roanoke—Mountain View Realty Co., Inc., capital \$25,000, incorporated; R. B. Pore.

Va., Winchester—Wm. M. Richards developing Algernon Terrace subdivision, 2½ acres; construct hard surfaced streets, conc. sidewalks; install ornamental lighting, sewers and water system; erect number of dwellings.

Lumber Enterprises

Tenn., Memphis—East End Lumber Co. incorporated; Sam Costen, Bank of Commerce Bldg.

Va., Urbanna—Urbanna Lumber Co., incorporated; C. D. Marchant, Harmony Village.

Mining

La., Winnfield—Carey Malt Co., Hutchinson, Kans., proceeding with development of salt mine; will soon let contract for building and machinery; design and letting of contracts in hands of Allen & Garcia Co., Engrs., 332 S. Michigan Ave., Chicago, Ill.; Dravo Contracting Co., Neville Island, Pittsburgh, Pa., contractors for sinking shaft. 6-19

Va., Charlottesville—Virginia Rock Products Co., Inc., capital \$50,000, incorporated; A. W. Higgins, Alexandria.

Miscellaneous Construction

Ala., Birmingham—City, Park and Recreation Bd., drawing plans for swimming pool, North Birmingham Park and for buildings in 2 other parks, costing \$38,000; D. O. Whildin, 515 N. 21st St., and E. B. Van Keuren, Comer Bldg., Archts. on swimming pool, bath house, dressing rooms, etc.; B. B. Burnham, Comer Bldg., will design and supervise construction of shelter house and rest room, Glendale Park, \$8000; William L. Denham, Comer Bldg., will design and supervise shelter house and rest room, Green Springs Park, \$5000.

Arkansas—See Memphis, Tenn.

D. C., Washington—See Bridges, Culverts and Viaducts.

Louisiana—U. S. Engr. Office, Second New Orleans Dist., foot of Prytanis St., has low bids for 635,000 cu. yd. earthwork, south bank Red River, designated by name, yardage, bidder, price bid: Lafourche Lenee Dist.—Davis Louisiana Levee, 370,000, Lower Coast Construction Co., Godchaux Bldg., Fairfield, 13.9 cents; Levee, 370,000, Lower Coast Construction Co., Godchaux Bldg., New Orleans, 13.9 cents; Davis-Louis Levee and Fairfield Levee combined, Lower Coast Construction Co., 13.2; Pontchartrain Levee Dist.—Butler Levee, 375,000, Highways Construction, Inc., Godchaux Bldg., New Orleans, 13.9 cents; Davis-Louis Levee and Butler Levee combined, Grasser Contracting Co., American Bank Bldg., New Orleans, 15 cents; Red Rver, Atchafalaya & Bayou Boeuf Levee Dist.—ECHO Levee, 295,000, McWilliams Dredging Co., Canal Bank Bldg., New Orleans, 11.9 cents; Bringol Levee, 340,000, Howard Kenyon Dredging Co., 3603 McKinney St., Houston, Tex., only bidder, 13.5; Echo Levee and Bringol Levee combined, Howard Kenyon Dredging Co., 12.79 cents. 2-19

La., Harvey—U. S. Engr. Office, First New Orleans Dist., Poland & Dauphine St., New Orleans, opens bids Apr. 7 for clearing site, constructing sheet pile cofferdam, excavation, driving foundation piling and sheet pile cut-off walls, conc. lock walls and floor, including rein. steel, and constructing temporary open deck timber pile trestle under tracks of Texas Pacific-Missouri Pacific Terminal Railroad of New Orleans, providing maintenance on trestle until such time as traffic is suspended and routed over new bridge, all in connection with lock to be constructed in Mississippi River.

Md., Curtis Bay, Baltimore—Treasury Dept., U. S. Coast Guard, Washington, D. C., opens bids Mar. 18 for marine railway 231 ft. long, with hoist house and steel sheet pile bulkhead 160 ft. long, at U. S. Coast Guard Depot.

Mississippi—See Memphis, Tenn.

Missouri—See Memphis, Tenn.

Mo., South St. Joseph—U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, opens bids Apr. 4 for about 1500 lin. ft. standard pile clump dikes, Missouri River, Contrary Bend.

Mo., Kansas City—City, H. F. McElroy, City Mgr., votes May 12 on \$1,000,000 bonds for Blue Valley flood protection and improvements.

Mo., Kansas City—Missouri Pacific R. R. Co., E. A. Hadley, Ch. Engr., T. M. Tucker, Archt., both St. Louis, let contract to S. Patti Construction Co., Lee Bldg., for \$1,000,000, 2,500,000-bu. grain elevator. 2-19

S. C., Charleston—Ch. of Engineers, U. S. Army, Washington, approved plans for repairs to south pier engineer's wharf; U. S. Engr., Charleston, soon take bids.

S. C., Charleston—Bureau of Yards and Docks, Navy Dept., Washington, expend \$150,000 constructing ship ways at Navy Yard.

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., opens bids Apr. 3 for 5,223,000 cu. yd. earthwork, designated by item number, location, distance from Cairo, kind of work, estimated cu. yd., net height (feet): Upper St. Francis Levee Dist.—4-H, Bird Point, Mo., 4R, enlargement and new, 200,000, 14 to 21; 4-1, Bird Point, Mo., 3R, enlargement, 47,000, 14 to 21; Upper Yazoo Levee Dist.—35A, Norfolk, Miss., 253L, restoration of sunken levee, 16,000, 23.0; 28A, 28R, 28C, Lake Cormorant, Miss., 255L, 256L, 259L, first enlargement, two new, 680,000, 960,000, 910,000, 23 to 29, 20 to 23, 18 to 21; 14A, Sherard, Miss., 332L, enlargement, 900,000, 27 to 40, White River Levee Dist.—43, Oldtown, Ark., 326R, new, "C" Section, 1,510,000, "B" Section, 1,200,000, 24 to 44.

Tex., Galveston—Galveston Wharf Co. plans extensive enlargements and improvements at Pier 19, occupied as terminal by United Fruit Co.

Va., Fort Monroe—Following estimating on Mine Wharf, bids due Mar. 16. Office of Corps Area Engr., Headquarters Third Corps Area, 311 St. Paul St., Baltimore, Md.; Merritt-Chapman & Scott Corp., Fidelity Bldg.; Sanford & Brooks Co., South and Water Sts.; M. G. Imbach, 4104 Springdale Ave., all Baltimore, Md.; Aslop & Pierce, Newport News; Carpenter & Petrie, Citizens Bk. Bldg., Norfolk; North-Eastern Construction Co., Nissen Bldg., Winston-Salem, N. C.; Kilby Car & Foundry Co., Anniston, Ala. 3-5

Va., Hampton Roads, Norfolk—Bureau of Yards and Docks, Navy Dept., Washington, D. C., has low bid from Merritt, Chapman & Williams, Inc., 833 Howard Ave., New Orleans, La., at \$472,000, for replacing Pier 7, naval operating base. 2-26

Va., Richmond—City, Dept. of Public Works, will receive bids soon on 504-ft. along-side wharf adjoining present city wharf; large storage warehouse at wharf; extension of railroad tracks to serve wharf and surfacing of area adjoining wharf on land side; \$250,000.

W. Va., Huntington—Ch. of Engineers, U. S. Army, Washington, approved plans for repairs to floating plant at dry docks along Ohio River; U. S. Engr. Office, Huntington, soon take bids.

W. Va., Prince—Carpenter, Major Bros. & Co., Inc., C. J. Carpenter, Gen. Contr., Clifton Forge, Va., advises regarding stage of construction on Stretcher's Neck Tunnel, at present Piper & East, Princeton, have 3 steam shovels working on west approach, which contains 500,000 cu. yd.; Carpenter, Major Bros. & Co., and Boxley Bros. Co., Orange, Va., as joint firm, up to present have been drilling and enlarging present single track tunnel to give clearance for steel shield which is 90 ft. long and covered with heavy timbers; shield furnished by Blaw-Knox Co., Farmer Bank Bldg., Pittsburgh, Pa.; joint firms just installed new electric driven, 1100-cu. ft. Ingersoll-Rand air compressor, purchased through Banks-Miller Supply Co., Huntington, and within 10 days actual tunnel excavation will begin. 12-11-30

Miscellaneous Enterprises

D. C., Washington—Purchase Section, Bureau of Standards, receives bids March 23 for construction of hydraulic laboratory building on grounds of Bureau, contractors estimating: A. L. Smith & Co., 2539 Pennsylvania Ave., 1 Fidelity Construction Co., 1218 Randolph St., N. E., both Washington; Turner Construction Co., 17th and Walnut Sts., Philadelphia, Pa.; United Engineers and Constructors, Inc., 112 N. Broad St., Philadelphia, Pa.; Hartenstein-Zane Co., Inc., 225 Broadway, New York. See Want Section—Bids Asked. 2-26

Fla., Fort Lauderdale—Higrade Construction Co., chartered; R. R. Saunders, S. E. Eighth St.

Ga., Claxton—Claxton Coca Cola Bottling Co., E. L. Tipping, has plans by Pringle & Smith, Archts., Norris Bldg., Atlanta, for \$60,000 bottling plant; 2 story; rein. conc.;

brick and tile walls stone trim; comp. roof; steel sash and doors. 1-22

Ga., Macon—Clark Memorials, Inc., Forsyth Rd., C. J. Clark, Pres., constructing building stone plant; 150x40 ft.; iron clad and brick; day labor; moving plant from Americus; install additional machinery; purchased. 3-5

Ga., Savannah—Swift & Co., Chicago, Ill., plans addition to plant 309 W. Broad St.; 1 story, steel and corrugated iron warehouse.

Ky., Lexington—Carter Constr. Co., Greenville, N. C., reported, has contract for warehouse for American Suppliers, Inc., subsidiary of American Tobacco Co., 111 Fifth Ave., New York; cost \$500,000. 1-22

Ky., Louisville—Abell Elevator Co., capital \$75,000, incorporated; Albert R. Wilhelm, 2179 Strathmore Blvd.

Ky., Mayfield—Mayfield Dairy Products Co., capital \$40,000, incorporated; H. E. Strong, Raymond Miller; formed by merger of Mayfield Ice Cream and Milk Co., and Clover Leaf Dairy Products Co.

Ky., Paducah—Bronstein-Shriar Co., 910 W. Jackson Blvd., Chicago, Ill., manufacturers of Sally Bee Maid smocks, aprons and house dresses, reported, plans establishing plant in building Tenth and Jefferson Sts.

La., Baton Rouge—Louisiana Creamery, Inc., J. M. Caldwell, Pres., L. S. U. Campus, reported, opens bids April 7 for 2 story, rein. conc. and brick creamery on Plank Rd.; built up compo. roof; steel sash; fireproof; Weiss, Dreyfous & Seiferth, Archt., Maison Blanche Bldg., New Orleans. 2-12

La., Hodge—Advance Bag & Paper Mill, Howland, Maine, reported, plans establishment of paper mill.

La., New Orleans—New Orleans Macaroni Mfg. Co., capital \$25,000, incorporated; Antonio Riccchono, 1107 Dauphine St.

Md., Baltimore—R. B. & L. Building Co., Inc., capital \$50,000, incorporated; Nathan Rosenstadt, 807 Brooks Lane.

Md., Hagerstown—International Publishers, Inc., chartered; J. Martin McDonough, H. Walker Lewis.

Miss., Hattiesburg—State Highway Comsn., Gus A. Draper, Engr., Jackson, plans construction of repair shops and storage warehouses for District No. 6; will serve 20 counties.

Miss., Picayune—Goodyear Yellow Pine Co., L. O. Crosby, advises will probably set out some 3,000 or 4,000 acres next winter in tung oil trees.

Miss., Picayune—Lamont Rowlands, La Row Investment Co., planting 1000 acres in tung oil trees; ultimate acreage 40,000 acres.

Mo., Jefferson City—Schmidt & Walther Gardens, Inc., let contract to John Van Pool, Russellville, Mo., for drilling well for water supply in connection with development of greenhouses. See Want Section—Machinery and Supplies. 3-12

Mo., Kansas City—Tobin Walsh Construction Co., chartered; W. P. Tobin, 5314 Michigan St.

Mo., Kansas City—Universal Paving Co., 202 Keith & Perry Bldg., capital \$100,000, incorporated; John A. Pratt, Arnold H. Frank.

Mo., Kansas City—Penn Amusement Co., 1209 Commerce Bldg., incorporated; Harry Cleveland, Jack Rickstein.

Mo., Kansas City—Safety Cylinder Cock Co., incorporated; W. F. Logan, 1111 W. 38th St.

Mo., St. Louis—Charles A. Liemke Co., incorporated; Charles A. Liemke, 3884 Arsenal St.; manufacture root bear, etc.

Mo., St. Louis—Frank Building Corp., capital \$200,000, incorporated; Geraldine Webb, 2420 Salena St.

N. C., Elizabeth City—M. P. Hite, Archt., Elizabeth City, has plans under way for pickling plant outside city limits for C. Foos, 122 McPhail St., Baltimore, Md.; building will contain 40 brine tanks with capacity 5000 gal. each; tanks shipped from California to Elizabeth City; will purchase new equipment and machinery. 1-29

N. C., Gastonia—Mill & Marine Electric, Inc., capital \$50,000, incorporated; F. S. Paylor, 219 N. Morris St.

N. C., Durham—Automatic Dowel Lock Corp., capital \$100,000, incorporated; J. S. Babb, Knox Circle.

N. C., Greensboro—H. M. Durham Printing Co., capital \$40,000, incorporated; H. M. Durham, 112 W. Washington St.

N. C., Winston-Salem—Pfaff's, Inc., capital \$50,000, chartered; S. A. Pfaff, 812 West St.; manufacture glass.

Okla., Muskogee—Burton D. Hurd, reported, closed contract with Mid-West Fruit Co., 23 W. Okmulgee St., for building at Hyde Park, for dehydrating plant; later install cold storage equipment.

Okla., Stillwater—Shideler & McVay, Inc., capital \$50,000, chartered; C. C. Shideler, Harry McVay.

S. C., Anderson—Browne Publishing Co., capital \$15,000, incorporated; G. Paul Browne, 640 W. Market St.; publish semi-weekly newspaper.

Tenn., Walland—England-Walton Co., Inc., Third & Vine Sts., Philadelphia, Pa., reported, let contract for rebuilding burned tannery.

Tex., Fort Worth—Texas Rail Joint Co., capital \$50,000, incorporated; J. W. Hubbard, Pittsburgh, Pa.; R. O. Shaffer, Fort Worth.

Tex., Fort Worth—Magnolia Paper Co., 601 E. Second St., A. G. Schroer, Gen. Mgr., reported, plans \$75,000 paper plant adjoining present plant at 601 E. Second St.; 100x100 ft.; install additional printing equipment.

Tex., Granger—Grate Construction Co., incorporated; T. B. Sullivan, S. B. Davis.

Tex., Henderson—Appleman Bit Service Co., incorporated; T. N. Hunt, J. H. Larson.

Tex., Houston—Onlooker Publishing Co., incorporated; B. P. Panas, Esperson Bldg.

Tex., Longview—C. E. Faulk and associates of West Monroe, La., reported, acquired Longview News Co., Inc., publishers of Daily News, Morning Journal and Gregg County Oil News.

Tex., Marshall—City Laundry Co., John Harter, reported, let contract to G. O. Smith for addition to plant West Barleson and N. Lafayette Sts.; 35x90 ft.; 1 story; cost \$15,000.

Tex., Rockfort—Heldenfels Bros., reported, rebuild burned warehouse and office.

Tex., San Antonio—E. Y. White, Inc., capital \$60,000, incorporated; E. Y. White, 701 Broadway, laundry.

Va., Alexandria—Vincent Schiavi, Buffalo, N. Y., reported, interested in re-organization of Matoli Electric Co., New York City, and establishment of plant for manufacturing spark plugs and battery connections.

Va., Danville—Hughes Tobacco Warehouse Co. increased capital, \$150,000 to \$225,000.

Va., Lynchburg—John P. Pettyjohn & Co., 212 Eighth St., has contract for erection of building for News and Advance, Ninth and Church Sts., cost \$106,500, faced with limestone, fire proof.

Va., Richmond—American Paper Co., Inc., 602 N. 17th St., increased capital, \$50,000 to \$100,000.

Va., Rosslyn—Washington Paper Stock Co., Inc., reported, plans rebuilding burned plant.

Va., Surry—Surry Printing Co., incorporated; E. S. Kitchen, Wakefield.

Va., Warm Springs—Enterprise Publishing Co., Inc., chartered; J. Preston Crews.

Motor Bus Lines and Terminals

Ark., Rogers—A. L. Lane, Pres., Lane Hotel Co., reported, plans erecting motor bus terminal, Elm St.; 40x150 ft.; tile and stucco; soon open bids for construction; A. O. Clark, Archt.

Mo., Springfield—Murphy U-Drive It, Inc., chartered; J. B. Murphy, 987 S. Jefferson St.

Mo., St. Charles—Terminal Cab Co., incorporated; Edward G. Kuechier.

Mo., St. Louis—Missouri Pacific Transportation Co., P. J. Neff, V. P., 600 Walnut St., reported, acquired St. Louis to Memphis bus route of Atlantic and Pacific Stages.

Tenn., Memphis—Central Greyhound Corp., F. B. Archer, Regional Mgr., submitted plans prepared by George W. Person and Anker F. Hansen, Archts., Shrine Bldg., to transportation committee of Planning Comsn. for erection of bus terminal Monroe Ave. at rear of Marx & Bensdorf Bldg.; under plan submitted the Central Greyhound Co. will erect terminal and Smith Motor Coach Co., 144 N. Front St., and Missouri Pacific Transportation Co., would use it; 1 story; 74x148 ft.; cost about \$50,000. 10-24

Tex., Galveston—Texas Bus Lines, Inc., R. G. Carroll, 2116 F St., reported, acquired Galveston-Houston end of South Texas Coast

Line from Bowen interests of Fort Worth; line operates along Santa Fe Highway, No. 38 to Alvin and Houston, via Pearland and Houston airport.

Railways

Florida—Atlantic Coast Line R. R., J. E. Willoughby, Ch. Engr., Wilmington, N. C., ordered material from Union Switch & Signal Co., East Pittsburgh, Pa., for automatic interlocking protection at crossing of Seaboard Air Line at Mattox; color-light signals to be used.

La., Shreveport—Louisiana & Arkansas Ry. Co., W. F. Wright, Pur. Agt., Minden, inquiring for two 2-8-2 type locomotives.

S. C., Greenville—Greenville & Northern Ry. Co., F. G. Hamblen, Vice-Pres., Sec. and Gen. Mgr., start work at once on 4 miles of line between Marietta and Cleveland; branch will be along new roadbed and new right-of-way; cost \$25,000.

Texas—Atchison, Topeka & Santa Fe Ry., M. J. Collins, Gen. Pur. Agt., Chicago, Ill., ordered 10 locomotive tenders from Baldwin Locomotive Works, Philadelphia, Pa.

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Conway—5 mi. grading, draining, conc., Highway 64, No. 4153, Ziegler Construction Co., \$73,934; 6 mi. grading, draining, conc., Highway 64, No. 7154, Ziegler Construction Co., \$104,062;

Johnson—2 mi. grading, draining, 1.5 mi. paving, Highway 64, No. 8155, Ziegler Construction Co., \$116,447.

D. C., Washington—Office of Architect of Capitol, Washington, D. C., opens bids Mar. 25 for walks on site for enlargement of U. S. Capitol grounds.

Fla., Jacksonville—Duval County Commrs. voted to complete 1 mi. graded road, Otis to Bryceville.

Ga., Columbus—Muscogee County Commrs. of Roads and Revenue, C. L. Rhodes, County Engr., open bids Apr. 2 for 1.9 mi. 20-ft. rein. conc. paving, Brown and Cherokee Ave., 23,000 sq. yd., \$40,000.

KENTUCKY—State Highway Comsn., H. D. Palmore, Engr., Frankfort, opens bids Apr. 15 for 15 roads (grading, draining unless otherwise designated) and 2 bridges in following counties:

Bell—3.4 mi., Blackmont-Alva (Pucketts Creek) road, Blackmont to Harlan County line;

Casey—8.7 mi., Liberty-Somerset road, Liberty to graded road near Pine Grove School;

Crittenden—8.3 mi., Marion-Shady Grove road, Peoria to Edmondson County line;

Grayson—9.0 mi. surfacing, Leitchfield-Beaver Dam road, Caneyville to Ohio County line;

Kenton—4.1 mi., Covington-Morning View (DeCoursey) road, south city limit of Covington to 500 ft. south of Decoursey Creek bridge;

Lincoln—10.5 mi. surfacing, Stanford-Mt. Vernon road, Stanford to Crab Orchard;

Livingston—6.3 mi., Salem-Golconda road, Salem to ½ mi. west of Lola;

Madison—6.7 mi., Richmond-Point Lick road, Calcast to Point Lick;

Muhlenberg-Todd—14.9 mi. surfacing, Greenville-Kirkmansville road, Greenville, Muhlenberg County, to Kirkmansville, Todd County;

Ohio—15.2 mi. surfacing, Beaver-Dam-Leitchfield road, Hartford-Beaver Dam road near Beaver Dam to Grayson County line;

Perry—6.6 mi. surfacing, Hazard-Jackson road, 1.5 mi. northwest of Hazard to Dwarf; 3.1 mi. surfacing, Hazard-Whitesburg road, Hazard to bridge at Glomar;

Warren—1.0 mi. overhead structure, grading, draining, surfacing overhead crossing and approaches, Bowling Green-Glasgow road, 1 mi. east of Sunnyside;

Washington—0.5 mi. bridge and grading approaches over Beech Fork, Springfield Perryville road, 1 mi. west of Texas.

Kentucky—State Highway Comsn., H. D. Palmore, Engr., Frankfort, opens bids Mar. 25 for 4.3 mi. grading, draining, surfacing,

0.9 mi. southeast of Warren County line. Bowling Green-Scottsville road, Alvaton to

MARYLAND—State Roads Comsn., L. H. Stuart, Sec., Baltimore, has low bids for 3 roads in following counties:

Charles—0.95 mi. gravel, Waldorf-Leonardtown road, Ch-98-811, Southern Maryland Construction Co., 20 E. Lexington St., Baltimore, \$23,944;

Alleghany-Garrett—10.65 mi. conc. shoulders, National Pike, Frostburg toward Grantsville, A-86-611, Cumberland Contracting Co., Valley St., Cumberland, \$129,218;

Frederick—7.0 mi. grading, draining, Thurmont-Pennsylvania State Line road, F-166-511, Fulton Construction Co., Lancaster, Pa., \$40,303.

MARYLAND—State Roads Comsn., L. H. Stuart, Sec., Baltimore, opens bids Mar. 17 for 3 roads and 2 bridges in following counties:

Caroline—2.2 mi. conc., State Highway, Ridgely toward Greensboro, FAP 232-A, Co-66-22;

Frederick—7.8 mi. conc. shoulders, State Highway, Jefferson Pike, Frederick to Jefferson, FAP 227-A, F-165-611; conc. floor for bridge under construction over Monocacy River, Furnace Ford, Buckeystown Pike, F-172-57;

Howard—1.25 mi. macad. resurfacing, Woodstock road, Old Frederick road toward Woodstock, Ho-90-52;

Prince George's—slab bridge with sidewalks, fill and surfacing, Central Ave., Capitol Heights, P-157-711.

Md., Baltimore—City, Nathan L. Smith, Highways Engr., opens bids Mar. 18 for Cont. 588, 110 sq. yd. brick paving, and 2750 sq. yd. granite block (repaving); Cont. 589, 17,300 sq. yd. sheet asphalt.

Md., Baltimore—City, Nathan L. Smith, Highways Engr., has low bid from American Paving & Contracting Co., 2525 Montebello Ave., \$38,161, for Cont. 583, 9250 sq. yd. sheet asphalt.

Md., Sharpsburg—U. S. Army Headquarters, Third Corps Area, 311 St. Paul St., Baltimore, take bids late in March or about Apr. 1 for roads, Antietam Battlefield, costing \$150,000.

MISSISSIPPI—State Highway Comsn., Gus A. Draper, Engr., Jackson, opens bids Mar. 20 for 6 roads and bridges, involving approx. \$400,000, in following counties:

De Soto—6.525 mi., Hernando-Memphis rd. and 5.513 mi., Holloy Springs-Olive Branch road, FAP 94-Reop. and 189-A Reop., \$7,246 cu. yd. common and borrow excavation, \$36,258 lb. rein. steel; alternates: Group "A," 140,055 sq. yd. cement conc. pavement, plain, 553 sq. yd. cement conc. bridge ends, 17,504 sq. yd. mesh reinforcement; Group "B," 133,052 sq. yd. sheet asphalt, rock asphalt or asphaltic conc. surface course; 140,055 sq. yd. cement conc. base course, 533 sq. yd. cement conc. bridge ends, 17,504 sq. yd. mesh reinforcement; Group "C," 140,055 sq. yd. sheet asphalt, rock asphalt or asphaltic conc. surface course, 140,055 sq. yd. asphaltic conc. base course, 533.3 sq. yd. cement conc. bridge ends, 31,343 cu. yd. gravel sub-base course;

Grenada—conc. bridge, Memphis road, FAP 209-A Revised, 52,086 lb. rein. steel, 1260 lin. ft. foundation piling;

Copiah—8.673 mi., Halzlehurst-Wesson road, FAP 89-A, 228,338 cu. yd. common and borrow excavation, 104,459 lb. rein. steel;

Lee-Pontotoc-Union—3.956 mi., Tupelo-New Albany road, FAP 169-B, 131,367 cu. yd. common and borrow excavation, 148,454 lb. rein. steel; bridges, 115,413 lb. rein. steel, 39,030 lb. struc. steel;

Simpson—6.238 mi., Star-D'Lo road, FAP 200-E, 96,171 cu. yd. common and borrow excavation, 110,620 lb. rein. steel; bridges, 61,798 lb. rein. steel;

Rankin—5.072 mi., Jackson-Star road, FAP 200-D, 94,937 cu. yd. excavation, 15,855 lb. rein. steel; 132,622 lb. rein. steel in bridges, 2268 lin. ft. foundation piling.

MISSOURI—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, has low bids for 26 roads in following counties:

Andrew—4.411, 1.226 mi. 20-ft. conc., 315A, 315B, Gaines Bros. Co., Eldon, 062,858, \$17,040;

Buchanan—1.508 mi. 20-ft. conc., 315C, Gaines Bros. Co., \$29,632;

Clay—3.124 mi. 24-ft. graded earth, Ref. 38, Perry McGlone, Harrisonville, \$18,315;

Cass—3.549, 3.296, 3.398 mi. 30-ft. graded earth, 35TH-15, 35TR-16, 35TR-17, R. G. Aldridge, Kansas City, Kan., \$16,488, \$13,486, \$12,651;

Clinton—3.141 mi. 30-ft. graded earth, 116-2A, Atkinson Paving Co., Watertown, S. D., \$33,975;

Cape Girardeau—0.257 mi. 20-ft. conc., 61-116, M. J. Davidson, 706 Chestnut St., St. Louis, \$4773; 3.019, 2.242 mi. 10-ft. conc. and

gravel surfacing, 74-1A, 74-2A, M. J. Davidson, \$30,703, \$22,839;

Dent—4.130 mi. gravel surfacing, 32-15, Carte-Harlin Construction Co., West Plains, \$46,586;

Jasper—3.607, 3.665, 3.056 mi. 20-ft. conc., 38-5, 38-6, Ref. 3, Kelly & Underwood, Granby, \$76,729, \$880,097, \$63,056.

Phelps—4.334 mi. 30-ft. graded earth and gravel surfacing, 68-3, H. D. Thomas, Fulton, \$30,296;

New Madrid—3.068, 3.055 mi. 62-2R, E. L. Markham, Cape Girardeau, \$56,123, \$59,906;

Nodaway—4.734, 4.677 mi. 30-ft. graded earth, 336A, 336B, R. G. Aldridge, \$48,075, \$74,420;

Ray—2.954, 3.682 mi. 30-ft. conc., 335E, 335F, E. C. Johnson Construction Co., Carrollton, \$19,469, \$23,123;

Shelby—4.774, 4.545 mi. gravel, SM-1, SM-2, H. D. Thomas, \$16,587, \$18,483;

Ste. Genevieve—0.556 mi. 30-ft. graded earth, 25-6A, W. F. Fogleman, Jefferson City, \$27,865;

Webster—3.924 mi. 24-ft. graded earth, SA 2, Norman Davis, Sikeston, \$24,430.

Mo., St. Louis—City, Bd. of Public Service, opens bids Mar. 24 for reconstructing and improving alleys, Lettings 4184, 4203.

OKLAHOMA—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, has low bids for 10 conc. roads, aggregating \$2,199,018, in following counties:

Rogers—23.88 mi., Highway 66, Ellis & Lewis Co., Surety Bldg., Muskogee, \$343,099;

Oklahoma-Lincoln—8.81 mi., Highway 266, Ellis & Lewis Co., \$146,303;

Canadian—18.81 mi., Highways 66 and 81, Union Construction Co., Des Moines, Ia., \$269,550;

Stephens-Jefferson—6.49 mi., Highways 81 and 53, Standard Paving Co., Tulsa, \$108,415;

Beckham-Washita-Custer—34.32 mi., Highway 66, Standard Paving Co., \$559,881;

Kingfisher—9.15 mi., Highway 81, Park & Co., 808 S. 17th St., Oklahoma City, \$149,569;

Noble-Payne—15.43 mi., Highways 64 and 40, Briscoe Construction Co., Stillwater, \$227,180;

Bryan-Hughes—7.772 mi., Stillwater, Highway 75, S. O. Maxey & Co., Durant, \$121,294;

Muskogee—3.85 mi., Highway 73, Ellis & Lewis Co., \$49,222;

Grady—15 mi., Highways 81 and 277, W. R. Gibson Co., Pauls Valley, \$224,500.

Oklahoma—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, has low bids for gravel in Choctaw and McCurtain Counties, aggregating \$24,308, from J. R. Dulaney, Ardmore, and Dickinson & Wray, Chattanooga, Okla.; has low bids for guard rail in Noble, Jefferson, Logan and Caddo Counties, aggregating \$9004, from Brown Construction Co., Guthrie; will readvertise for gravel maintenance work in LeFlore County, Proj. S. 335-ABCDE.

TENNESSEE—State Dept. of Highways and Public Works, T. E. McEwen, Engr., Nashville, has low bids for 5 roads and 5 bridges in following counties:

Washington—5.52 mi. grading, draining, Highway 34, FAP R-A, Brown Contracting Co., \$88,140;

Humboldt—5.63 mi. paving, Highway 1, FAP 220-A, Ziegler Construction Co., American Trust Bldg., Nashville, Tenn., \$87,790;

Dickson—7.90 mi. paving, Highway 1, FAP 220-B Reop., Ziegler Construction Co., Nashville, \$119,885;

Rhea—8.63 mi. grading, draining, Highway 29, FAP 231-F, Brown Construction Co., \$53,978; 5 bridges, Hogen-Bagley Construction Co., Fayetteville, \$68,341;

Lake-Obion—11.45 mi. paving, Highway 78, FAP 243-A, Lawrence Construction Co., Standard Life Bldg., Jackson, Miss., \$192,516.

Tenn., Chattanooga—City, W. H. Wilson, City Engr., plans street improvements in spring, including laying sidewalks, Brainerd road, extending Broad St. to St. Elmo, reconditioning St. Elmo Ave. through entire length; approach to property of Chattanooga-Lookout Mountain Park Association, Ochs Highway, being surveyed and plans being prepared; plans complete for improving Dallas road, Mississippi Ave. to Hixon Pike and paving of one block of Edgewood Circle, Riverview.

Tex., Dallas—Dallas County, Chas. E. Gross, County Auditor, opens bids Mar. 23 for paving approaches of Cadiz St. viaduct with asphalt, and paving Commerce St. viaduct approaches, one part to be paved with asphalt and other with conc.; Rollins & Clinger, Dist. Engr., Hall of Records Bldg.

Tex., Dallas—City Comsn. has low bids for streets: Wallace Bros. & Browden, \$36,589, for 15,510 sq. yd. conc. paving; Thurber Construction Co. low on brick paving.

Tex., Houston—City, W. B. Stewart, Asst. Paving Engr., has preliminary plans for 52-ft paving, Louisiana St., 1½ mi. from Dallas to Berry.

VIRGINIA—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, has low bids for 9 roads and 2 bridges in following counties:

Greensville—6.766 mi. soil surface treatment, Route 12, F-6E1A, J. J. Battershill & Sons, Buena Vista, \$49,382;

Chesterfield—bridge over Proctors Creek, Route 31, F-173-B2, Fredericksburg Bridge Co., Fredericksburg, \$2771; bridge over Swift Creek near Petersburg, Route 31, F-66-B1, J. S. Bowers, Whiteville, N. C., \$6851;

Wythe—0.248 mi. one course macad. surface treatment, Route 10, F-151ABR, R. H. Boiling, Norton, \$23,049.

Chesterfield—2.8 mi. gravel, Routes 13 and 418, Sanderson & Parker, Cartersville, \$21,814;

Buchanan—8 mi. macad., Route 126, Tazewell Construction Co., Richlands, \$70,171;

Nansemond—5.8 mi. conc., Route 505, Guilford Construction Co., Greensboro, N. C., \$110,858; 1.5 mi. conc., Route 12, Tunstall-Johnson Co., Citizens Bank Bldg., Norfolk, \$42,417;

Augusta—1.4 mi. macad., Route 39, Pocahontas Construction Co., Cass, W. Va., \$27,505;

Brunswick—7 mi. soil roadway, Route 12, J. J. Battershill & Son, Virgilina, \$44,079;

Madison—7.4 mi. grading, draining, Route 28, Perkins-Barnes Construction Co., Blackstone, \$23,345.

Va., Fredericksburg—Fredericksburg Battlefield Park Comsn., Maj. Arthur E. Wilbourn, Resident Member and U. S. Army Officer in charge of work, opens bids Mar. 30 for 6 mi. gravel roadway through Hamilton's Crossing sector of battlefield and for resurfacing sunken road at foot of Marye's Heights; bill appropriating \$215,970 or park passed by Senate and House of Representatives and signed by President.

Va., Mount Vernon—U. S. Dept. of Agriculture, Bureau of Public Roads, Thos. H. MacDonald, Ch. of Bureau, Washington, D. C., has low bid from Atlantic Bitulithic Co., Munsey Bldg., Washington, D. C., at \$1,200,530, for paving Unit 4, Mount Vernon Memorial Highway, entire work.

Va., Richmond—City, R. Keith Compton, Dir. Public Works, opens bids Mar. 16 for paving 17th St. with 4300 sq. yd. brick on 6-in. conc. base, and for paving various streets with 1½-in. sheet asphalt or 2-in. Warrenite bitulithic on conc. base, 18,225 sq. yd.

Contracts Awarded

Ala., Jacksonville—City let contract to W. B. Scarborough, Jacksonville, at \$10,355, for square in center of city.

ARKANSAS—State Highway Comsn., Dwight H. Blackwood, Chmn., Little Rock, let contracts for 13 roads (conc. paving unless otherwise designated), involving \$1,115,882, in following counties:

St. Francis—3 mi., Highway 70, Job 11032, Ziegler Construction Co., American Trust Bldg., Nashville, Tenn., \$47,357; 5.5 mi., Highway 70, No. 11033, Ziegler Construction Co., \$90,330; 6 mi., Highway 70, No. 11040, Ziegler Construction Co., \$97,078;

Lonoke—8 mi., Highway 70, No. 6124, Merrill Engineering Co., Jackson, Miss., \$128,120; 6 mi., Highway 70, No. 6146, Merrill Engineering Co., \$95,543;

Union—1.5 mi. grading, Highway 167, No. 7156, D. B. Hill, Little Rock, \$19,814;

Pope-Conway—6 mi. grading, draining, conc., Highway 64, No. 890, Garrett Construction Co., Springfield, Mo., \$109,501;

Pope—3.5 mi., Highway 64, No. 8115, Porter Construction Co., Little Rock, \$65,840; 4.5 mi. grading, draining, conc., Highway 64, No. 8151, Porter Construction Co., \$80,105;

Johnson—5.5 mi., Highway 64, No. 8152, Garrett Construction Co., \$87,767;

Conway—5 mi. grading, draining, conc., Highway 64, No. 8153, Ziegler Construction Co., \$73,933; 6 mi. grading, draining, conc., Highway 64, No. 8154, Ziegler Construction Co., \$104,042;

Johnson—2 mi. grading, draining, conc., Highway 64, No. 8155, Ziegler Construction Co., \$116,447.

Florida—State Road Dept., Robt. W. Bentley, Chmn., Tallahassee, let contract to Johnson, Drake & Piper, Inc., Minneapolis, Minn., at \$340,148, for 10.31 mi. grading, draining, paving, Pasco County line to Sulphur Springs bridge, Road 5.

La., Tallulah—Madison Parish Police Jury, P. O. Benjamin, Sec., let contract to Hennington Bros., Crystal Springs, Miss., at \$12,243, for 7 mi. Luns-Fortune-Fork Alga-

don gravel surfaced road; to W. L. and C. E. Powell, Franklinton, at \$5038, for Lick Bayou-Indian road embankment.

Maryland—State Roads Comsn., L. H. Steuart, Sec., Baltimore, let contract to P. Reddington & Son, 2 E. Lexington St., Baltimore, at \$41,430, for 1.1 mi. conc., Frederick road, Baltimore to Catonsville, B-181-711.

Md., Baltimore—U. S. Government Army Headquarters, Third Corps Area, 311 St. Paul St., let contract to De Cou & Chidlaw, Eutaw and Biddle Sts., at \$18,945, for conc. work at Fort McHenry, including roads, walks, parking area, conc. benches, etc.; has low bid from Victor A. Pyles Co., Brooklyn, Baltimore, at \$36,900, for landscape work, including grading, top soil, etc.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, let contracts for 37 roads and 11 bridges, involving \$3,505,490, in following counties:

Cooke—1.6 mi. grading, draining, Highway 40, J. E. Smith & Son, Noble, Okla., \$22,568;

Ellis—5.2 mi. grading, draining, Highway 14, E. R. Leach, Dallas, \$31,890;

Haskell—17.5 mi. grading, draining, Highway 30; grading, small structure, Stuckley Construction Co., Kemp Hotel, Wichita Falls, \$363,739; large structure, John F. Buckner, Cleburne, \$22,726;

Pecos—24.8 mi. grading, draining, Highway 27, Hannah Construction Co. and Fred and Dan Hall, 3401 Morrow Ave., all Waco, \$75,312;

Tyler-Jasper—Neches River bridge and approaches, Highway 40, Thomas & Ratliff, Rogers, \$124,248;

Wheeler—12.6 mi. grading, draining, Highway 75, Huddleston & Work, Crosbyton, \$37,763;

Crosby—6 mi. grading, draining, Highway 24, Womack, Henning & Rollins, Sherman, \$87,222;

Randall—15.3 mi. grading, draining, Highway 33, Womack, Henning & Rollins, \$27,994;

Guadalupe—9.5 mi. rock asphalt surface on conc. base, Highway 3-A, Dadds & Wedegartner, San Benito, \$191,216;

Robertson-McLeon—Navasota River bridge and relief bridges, Highway 43, Thomas & Ratliff, Rogers, \$96,316;

Lubbock—16.4 mi. conc., Highway 9, Interstate Construction Co., Yoakum, \$345,848;

Brazoria—7.4 mi. conc., Highway 58, Dexter Construction Co., Lovefield Drive, Dallas, \$176,880;

Grayson—16 mi. conc., Highway 5, Dexter Construction Co., \$320,348;

Freestone—17 mi. conc., Highway 32, F. McElwrath, Corsicana, \$378,375;

Hood—Brazos River bridge and approaches, Highway 10, L. H. Lacy Co., Burt Bldg., Dallas, \$115,292;

Foard—15.4 mi. triple bitum. surface treatment on stone base, Highway 28, J. L. & E. A. Vilhig, Paris St., Dallas, \$142,795;

Karnes-Wilson—16 mi. rock asphalt surface on crushed limestone course, Highway 16, Dozier Construction Co., Littlefield Bldg., Austin, \$203,931;

Guadalupe—12.4 mi. grading, draining, Highway 123; grading, small structures, Word & Worrell, \$65,355; large structures, John W. Goodwin, Seguin, \$23,092;

Upton—22.9 mi. triple bitum. surface on stone and macad. base, G. B. Dyson & Co., Rankin, \$187,555;

Live Oak—bridges over Ramerina, Dix Hollow and Lagarto Creeks, Highway 145, Sanders & Hurlburt, Three Rivers, \$46,412;

Denton—6.8 mi. double bitum. surface (maintenance), Highway 10, P. F. Connelly Paving Co., \$11,913; 6.8 mi. double bitum. surface (maintenance), Highway 39, H. K. McCollum, Fort Worth Natl. Bldg., Fort Worth, \$13,856; 4.2 mi. double bitum. surface (maintenance), Highway 10, H. K. McCollum, \$7692;

Baylor—Miller Creek fill (maintenance), Highway 23, H. K. McCollum, \$8544;

Medina—4 mi. rock asphalt surface (maintenance), Highway 3, Dexter Construction Co., \$7361;

Harrison—7 mi. surface treatment (maintenance), Highway 15, withdrawn from letting;

Harris—improving Highway 55, Moller & Roberts, Hitchcock, Texas, low bidders, \$447,443; award withheld;

Brazos—7 conc. bridges between Bryan and Navasota River, W. W. Vann, Mercedes, low bidder, \$78,002; award withheld.

Brown—14.2 mi. conc., Highway 10, General Construction Co., Cappa Bldg., Fort Worth, \$271,859;

Henderson-Kaufman—18.6 mi. conc., Highway 40, Dadds & Wedegartner, Inc., San Benito, \$377,488;

Leon—17.3 mi. conc., Highway 32, Earl Yates & Son, Edna, \$377,580;

Gray—7.3 mi. conc., Highway 33, Stuckey Construction Co., Pampa, \$149,343;

Kerr—10.6 mi. crusher-run caliche base

course, Highway 41, Brown & Root, Norwood Bldg., Austin, \$41,928;

Runnels—10.9 mi. triple bitum surface treatment on caliche base course, Highway 4, Brown & Root, \$90,414;

Kinney—17.2 mi. 2-course limestone rock asphalt surface course on caliche base course, Highway 3, J. W. Gwin, Comer Bldg., Birmingham, Ala., \$123,969;

Ellis—10 rein. conc. deck girder bridges, Highway 14, Crocker & Fisher, Allen Bldg., Dallas, \$160,844;

Crown—12.3 mi. grading, draining, Highway 2; small structures, E. T. Bucy & Son and C. T. Childs, Rising Star, \$46,187; large structures, L. D. Parks, Fort Worth, \$26,054;

Colorado—11.4 mi. grading, draining, Highway 71; small structures, E. G. Powell, Jacksonville, \$52,739; large structures, Dozier Construction Co., Littlefield Bldg., Austin, \$26,557;

Hall—10.5 mi. grading, draining, Highway 18, Sachse & Wise, Quitaque, \$24,249;

Montague—1.9 mi. grading, draining, Highway 2; small structures, George W. Condon, Omaha, \$41,901; large structures, Blackburn Construction Co., Ardmore, Okla., \$12,944; special contract for bank protection, Kellner Jetties Corp., Topeka, Kan., \$4704;

Comanche—28 conc. girder spans over Leon River, Highway 10, J. Floyd Malcolm, Abilene, \$75,421;

Reeves—17.2 mi. grading, draining, Highway 17, Armstrong & Hudson, Pecos, \$54,550;

Caldwell—1.1 mi. grading, draining, Highway 3-A, Huse Popejoy, 1715 Jefferson Ave., Waco, \$16,970;

Victoria—16.6 mi. conc., Highway 29, R. W. Briggs, Pharr, \$333,091; 16.9 mi. grading, draining, Highway 128; small structures, E. G. Powell, Jacksonville, \$55,808; large structures, Monarch Engineering Co., 1146 W. Laurel St., San Antonio, \$44,823;

McLennan-Bosque—18.8 mi. grading, draining, Highway 67, John T. Ables, Madill, Okla., \$142,717.

Tex., Austin—City, Adam R. Johnson, City Mgr., let contract to Southwest Bitulithic Co., Littlefield Bldg., at \$64,960, for 2-in. Warrenite bitulithic paving on 5-in. conc. base, Districts 139 to 143, inclusive, at \$63,626, for Districts 150-154, inclusive, 26,285 sq. yd. paving with 6-in. main. conc.; for 2-in. Warrenite bitulithic on 5 and 6-in. conc. base, Districts 117-118, 8161 sq. yd., 40 to 60 ft. widths, \$20,020; Dist. 119, 36 ft. 2-in. Warrenite bitulithic on 5-in. conc. base, 6590 sq. yd., \$16,611; Districts 120, 121, 122, 123, 124, same type paving 40 ft., 30 ft. width for Dist. 120, total 23,386 sq. yd., \$57,799; Dist. 125, 126, 127, 128, 30 to 40 ft. width, Dist. 129, 130, 131, 36 ft. width, Dist. 132, 40 ft. width, Dist. 13, 30 ft. width, Dist. 134, 36 ft. width, total 38,129 sq. yd., \$88,210.

Tex., Brownsville—City Comsn. let contract to George Hamlik for conc. work, and to Southwest Bitulithic Co., Box 266, Sta. A, San Antonio, for surfacing about 12 blocks; \$12,000.

Va., Clarendon—Arlington County Supvrs. let contract to P. T. McDermott Co., Inc., 1014 Wisconsin Ave., N. W., Washington, D. C., for 1.6 mi. 50-ft. gravel, Four-Mile Run road, extending from Washington-Richmond Highway to Glebe road, at \$16,824.

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

D. C., Washington—Bright-Shepherd Co., Inc., 1415 K St., N. W., has contract for C St. sewer between Nineteenth St. and Seventeenth Place, N. W.; Corson & Gruman Co., Thirty-third and K Sts., N. W., for sanitary sewer at Eighteenth and Irving Sts., N. E.; Warren F. Brenzler Co., 101 New York Ave., N. W., for sewer system in vicinity of Arkansas Ave. and Upshur St., N. W.; Wm. A. Pate, Evans Bldg., low bidder for New Hampshire Ave., replacement sewer between M and Twenty-first Sts., N. W.

Fla., Miami Beach—City, reported, soon call for bids for construction 8-in. t. c. or conc. sanitary sewer, W. Thirty-first St.

La., Gretna—City plans voting on \$150,000 bonds for extending and completing sewerage system.

La., Lake Charles—Forgy, Hanson and McCorkle, Inc., Tallulah, La., have contract for sewer extension southwest portion of Ward 4.

Md., Baltimore—W. H. Thompson, Relay, has contract at \$37,445 for sewers Sanitary Contr. 267; Ryan Construction Co., 1600 Walnut St., Philadelphia, Pa., at \$47,522 for sewers, Sanitary Cont. 272. 3-5

Md., Baltimore—Marino Contg. Co., 305 N. Exeter St., low bidder at \$16,112, for sewers, Sanitary Cont. No. 268. 2-26

Md., Salisbury—City, Francis H. Dryden, City Engr., receives bids March 16 for construction sanitary sewers, Contrs., 204-S, 208-S and 209-S. See Want Section—Bids Asked. 2-26

Md., Towson—N. Martell, 4400 Vesta Ave., Baltimore, reported, low bidder for sewers Leeds, Arbutus and Ridgewood sections, Baltimore County, Contract 23-S. 2-26

Mo., Kansas City—City votes May 12 on \$2,750,000 bonds for parks and playground; \$1,000,000 for Blue Valley flood protection and improvements including acquisition of land for roadways and park purposes; \$3,500,000 for water supply improvements; \$1,500,000 for sewers; \$2,000,000 for Brush Creek sewers; \$500,000 for airport. 2-26

N. C., Greensboro—City, C. W. Smedberg, Director of Public Works and Service, advises improvement contemplated for North Buffalo Creek area and sewage disposal plant are only in initial stages; construction probably not begin for a yr. 3-5

Okla., Tulsa—Smith-Lyons Const. Co., Tulsa, has contract at \$115,000 for sewage disposal plant; Link-Belt Co., 300 W. Pershing Road, Chicago, Ill., for preliminary settling tanks; The Dorr Co., Westport, Conn., for digestors. 2-26

S. C., Greenville—Greater Greenville Sewer District plans sewage disposal plant; Whitman, Requaardt & Smith, Engrs., Baltimore Trust Bldg., Baltimore, Md. 2-19

S. C., Greenville—City votes March 17 on \$135,000 bonds for sewers for Augusta Rd. section and \$85,000 for Northgate section. 2-5

Tex., Austin—City, reported, postponed date of opening bids for sanitary sewers from March 11th to about April 11. 2-26

Tex., Houston—City opens bids March 25 for conc. work on 2 aerating units at North Side treatment plant; will install 2 pumps and mains, 750 and 2000 gal. per minute capacity; bids opened for excavation; cost \$60,000. 2-26

Tex., Houston—Charles K. Horton, 2202 Clay St., has contract at \$11,000 for sanitary sewer system to serve Southland Terrace and at \$1300 for storm sewer along San Jacinto St. 2-26

Tex., Kilgore—See Water Works.

Va., Langley Field, Hampton—Following estimating on 2 sewage pumping plants and force mains, Heavier-Than-Air, Langley Field Newport Contracting & Engineering Co., Lee Hall, Va.; C. W. Lockwood, 821 W. Forty-first St., Norfolk; Virginia Engineering Co., First Natl. Bank Bldg., Newport News; Bickelhaupt, Inc., American Bank Bldg., Richmond; A. G. Pinkston, P. O. Box 92, Norfolk; A. H. Guion & Co., Inc., Gastonia, N. C.; Alfred Johanson, Indian River Rd., Norfolk; Fairbanks, Morse & Co., 115 E. Lombard St., Baltimore, Md.; Chas. T. Taylor, 17 S. King St., Hampton; Moser & Bumgarner, Hickory, N. C.; T. E. Gresham Co., P. O. Box 137, Norfolk; The Suburban Eng. Co., 15 W. Thirtieth St., New York City; Wilbur G. Hudson Corp., 50 Church St., New York; Berkley Machine Works & Foundry Co., Inc., Pearl St., Norfolk; Associated General Contractors of America, 201 Builders Building, Charlotte, N. C.; Steacy-Schmidt Mfg. Co., York, Pa.; W. C. Spratt, Fredericksburg; bids opened March 23. 3-5

Va., Winchester—Stewart M. Perry, Winchester, reported, has contract for sewage disposal plant; Whitman, Requaardt & Smith, Engrs., Baltimore Trust Bldg., Baltimore, Md. 2-19

W. Va., Kenova—City voted \$80,000 sanitary sewer bonds. 2-26

Telephone Systems

D. C., Washington—Dept. of Commerce, Bureau of Standards, George K. Burgess, Director, advises proposed radio research project will require practically nothing in way of building or equipment except observing rooms with antenna of various types. 3-5

Mo., St. Louis—Voice of St. Louis, Inc., operating station KMOX, reported, closed contract with St. Louis Mart, Inc., for lease of 2 floors of new St. Louis Mart Bldg., now under construction, Twelfth Blvd. and Spruce St., for radio broadcasting station; estimated cost, \$250,000; studios will have own air filtering and ventilating system. 2-26

North Carolina—Southeast Public Service Corp. of Virginia, subsidiary of Central West Public Service Co., Frank Millholland, Pres., 117 N. 13th St., Omaha, Neb., reported, acquired 6 North Carolina telephone companies,

including Horton Telephone Co., North Wilkesboro, Elkin, Mount Airy, Rural Hall, Sparta, Yadkinville, Boonville, West Jefferson and Pilot Mountain; the International Telephone Co., Leaksville; Randolph Telephone Co., Asheboro and Ramseur; Mocksville Telephone Co., Mocksville; Granville Telephone Co., Creedmore; Troy Telephone and Electric Light Co., Troy, Mount Gilead, West End, Candor and Eagle Springs, and 15 rural Virginia telephone companies, including Piedmont Telephone Co., Charlottesville, Palmyra, and Scottsville; Dan River Telephone Co., at South Boston, Halifax and Ingram; Page County Telephone Co., Luray and Shenandoah; Farmville Telephone Co. at Farmville and Burkeville; Royal Telephone Co., Front Royal and Washington; Victoria-Kenbridge Telephone Co., Victoria and Kenbridge; Altavista Telephone Co., Altavista; South Hill Telephone Co., South Hill; Virginia-North Carolina Telephone Co., Broekneal and Rustburg; Old Dominion Consolidated Telephone Co., Bachelor's Hall; Spottswood Telephone Co., Raphine; Stanardsville Telephone Co., Standardsville; Buckingham Telephone Co., Dillwyn and Southside Telephone Co., Blackstone and Crewe. 2-26

N. C., Boone—W. R. Winkler applied to Federal Radio Comsn., Washington, D. C., for permission to construct station. 2-26

N. C., Charlotte—Auten's, Inc., capital \$35,000, incorporated; R. G. Auten, 7 Duckworth Ave. 2-26

Okla., Laverne—Standard Telephone Co. constructing toll line from city to Rosston to follow Highway No. 24 north of Laverne and then west on No. 64 to Rosston; will also build toll line from Rosston to Buffalo. 2-26

S. C., Anderson—Independent Publishing Co., Inc., applied to Federal Radio Comsn., Washington, D. C., for permit to erect new station. 2-26

S. C., Spartanburg—Aeronautical Radio, Inc., applied to Federal Radio Comsn., Washington, D. C., for permission to construct station. 2-26

Tenn., Nashville—Western Union Telegraph Co., reported, rebuilding and replacing telegraph lines along right of way of Nashville, Chattanooga and St. Louis Ry.; cost \$250,000; Irving Hall, Murfreesboro, Tenn., Foreman. 2-26

Tex., El Paso—Mountain States Telephone & Telegraph Co., Frank E. Farwell, Mgr., reported, plans expending \$925,000 in 1931 for improvements and extensions of telephone service in New Mexico and El Paso County, Tex.; expend \$225,000 of this amount for improvements and extensions to long distance facilities. 2-26

Tex., Houston—City, reported, considering establishment of police radio broadcasting system. 2-26

Virginia—See North Carolina.

Va., Altavista—South East Public Service Corp., L. D. Dinsmore, Charlottesville, Mgr., reported, acquired Altavista Telephone Co., Inc. 2-26

Textile Mills

Ga., Hogansville—United States Rubber Co., 1792 Broadway, New York, reported, acquired and will operate Stark Mills at Hogansville, a 35,000 spindle unit of Callaway Mills, Inc., LaGrange; plans 50% increase in output of cordage for tire manufacture. 2-26

Ga., Savannah—American Atlas Corp., A. T. S. Meldrum, 128 Abercorn St., Savannah, reported, interested in establishment of \$6,000,000 rayon and rayon fabric plant at Fort Wentworth; 2 main units, to consist of weaving mill and plant where rayon products will be made. 2-26

Tex., Houston—Mengden & Sons Co. of Texas, 2409 Commerce St., reported, construct plant in Esperson industrial tract on Navigation Blvd., for manufacture of rope, cordage and twine; rein. conc. and brick; cost \$165,000. 2-26

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Ark., Clarksville—See Electric Light and Power.

Ky., Ashland—City, Fred J. Gesling, City Engr., making survey for extension of Ashland-Russell water project to include West Russell and Raceland. 2-26

La., DeRidder—City, W. R. Middleton, Mayor, reported, plans voting on \$37,000 water works bonds. 2-26

La., Shreveport—W. H. O'Toole, 103 Grayling Lane, Monroe, reported, has contract for constructing 12-in. water main from Bossier City to Barksdale Field; U. S. Cast Iron Pipe & Foundry Co., Birmingham, Ala., for furnishing pipe. 2-26

Md., Baltimore—R. D. Wood & Co., 400 Chestnut St., Philadelphia, Pa., has contract at \$194,323 for c. i. pipe for Bureau of Water Supply. 3-5

Md., Brunswick—Central Foundry Co., 420 Lexington Ave., New York, reported, has contract to furnish 8200 ft. of 10-in. c. i. pipe for water line improvements between Brunswick and Knoxville. 2-26

Md., Frederick—Bd. of Aldermen will petition Legislature for \$225,000 bond issue for supplemental water supply from Ligamore Creek. 1-29

Mo., Kansas City—See Sewer Construction.

Tenn., Monterey—City, reported, plans installation of pumping machinery and other power equipment in connection with water works improvements. 2-26

Tex., Fort Worth—Frank Parrott, 1403 First Natl. Bank Bldg., Dallas, and R. F. Ball, 806½ Taylor St., Fort Worth, low bidders for filtration plant; Hawley, Freese & Nichols, Conslt. Engrs., 417 Capps Bldg. 2-19

Tex., Houston—City, J. A. Sauls, Ch. Water Works Engr., plans calling for bids in April on drilling well at Northeast plant. 2-26

Tex., Kilgore—City plans water and sewer improvements. 2-26

Tex., Wharton—Layne-Texas Co., Second Natl. Bank Bldg., Houston, reported, has contract at \$11,525 for drilling water well and installing pump; contract for 300,000 gal. capacity tank and tower let to Chicago Bridge & Iron Works, Ill.; C. E. Joplin, Wharton, for foundation. 2-19

Va., Virginia Beach—Town authorized Donald S. Calcott, City Engr., to make survey for furnishing town with water from Dam Neck. 2-26

Va., Virginia Beach—Town petitioned city of Norfolk to construct pumping unit and pipe line; W. R. Ashburn, Town Atty. 2-26

W. Va., Pennsboro—Town, Ira Taylor, Clk., voted \$40,000 bonds for extension of water system; may open bids May 1 for work; having survey made now; Paul B. Blundon, Engr., Keyser. 2-26

Woodworking Plants

Fla., Starke—Starke Stave Mill, W. P. Smith, Pres., constructing barrel stave and circular heading mill, daily output 800 bbls.; install machinery. See Want Section—Machinery and Supplies. 3-5

Ga., Savannah—Cason Mill Works, John J. Cason, reported, establish door frame plant in Industrial City Gardens. 2-26

FIRE DAMAGE

Ala., Alabama City—Plant of Hardwood Products, Inc.; loss \$25,000. 2-26

Ala., Bridgeport—Residence of Thos. Gilley, Jr. 2-26

Ark., Fort Smith—Garage of O. K. Transfer Co., W. Second and B Sts.; loss \$70,000. 2-26

Ark., Morrilton—Earl Hotel, owned by Mrs. Cunningham; loss \$12,500. 2-26

Ark., Mountainburg—Stores of J. T. Teague & Sons, C. C. Smith and Gregory Brothers; residence of Jesse Harsh; loss \$35,000. 2-26

Ky., Lexington—Abe G. Goldberg's store, building owned by Security Trust Co.; loss \$10,000. 2-26

Ky., Mt. Sterling—S. B. Barnard Department Store on S. Maysville St., building owned by Thomas Johnson Estate. 2-26

La., Oak Grove—Lee's Hotel and Lee's Pick & Pay Grocery, buildings owned by W. R. Lee; loss \$95,000. 2-26

Miss., Newhebron—Newhebron Motor Co.'s building; loss \$30,000. 2-26

Okla., Harrah—Grade school building; address School Bd. 2-26

S. C., Greenville—E. W. Montgomery Cotton Co.'s warehouse, damaged. 2-26

S. C., Greenville—J. C. Penney Co.'s store, 13 N. Main St., E. E. Scott, Local Mgr.; loss \$25,000. 2-26

S. C., Manning—Manning Lumber Co.'s plant, owned by Roy Anderson, leased by Claude Dinkens. 2-26

Tenn., Bruceton—Syd Ingram's residence.
 Tex., Bryan—Building and plant of Stevenson Machinery Co.; loss \$45,000.

Tex., Joinerville—Louis Clark's hotel; also number business buildings.

Tex., Rockport—Warehouse and office of Heldenfels Bros.'s shipyard.

Va., Evinston—School building; address School Bld.

Va., Norfolk—S. Jurin's buildings occupied by Norfolk Underselling Store, 401-09 E. Main, S. Jurin Underselling Store, 413 E.

Main St., S. Jurin Loan office, 415 E. Main St.; loss \$30,000.

Va., Pauls Cross Roads—J. H. Wilson's residence.

Va., Rosslyn—Plant of Washington Paper Stock Co., Inc.; loss \$10,000.

W. Va., Clarksburg—Economy Furniture Co.'s wareroom in rear of 145-47 W. Main St.; property owned by estate of Louis Olier, 527 Stanley Ave.; loss \$10,000.

W. Va., Monongah. Branch Fairmont—Garage leased to George Shaffer, owned by Lebby D'Allesandre.

Van Dorn Iron Works, 2685 E. 79th St., Cleveland, O.; Fries & Son Steel Construction & Engineering Co., Covington, Ky.; Kitchen Equipment—Southwestern Specialty Co., 125 Guadalupe St., San Antonio; John Van Range Co., 28th and 31st and Robertson Sts., Cincinnati; Albert Pick & Co., 134 N. La Salle St., Chicago, Ill.; Elevators—Hunter-Hayes Co., Construction Bldg.; Otis Elevator Co., 1822 Young St.; Westinghouse Electric Elevator Co., Magnolia Bldg., all Dallas, Tex.; Plumbing and Heating—Roche Newton & Co.; Young & Pratt; Bell Plumbing & Heating Co.; Anthony & Anthony, all Lubbock; Electrical Work—Wilson Electric Co.; DeWitt Electric Co.; Fletcher Electric Co.; Frank White; Carnett Electric Co.; Anderson & Young, all Lubbock; Electric Construction Corp., 209 S. Pearl St., Dallas; S. B. Haynes, Archt., Lubbock. 2-26

Tex., New Braunfels—Comal County Commissioners' Court, Carl Roeper, County Judge, receives bids until March 23 for furniture and equipment for court room.

Tex., San Benito—Kiwanis Club interested in erection of \$125,000 municipal bldg.; bond issue recommended.

Tex., Wharton—City selected Raymond W. Davidson as architect for \$25,000 city hall; bonds available. 1-15

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Ky., Ashland—Lincoln Lodge, I. O. O. F., W. M. Nicholson, member, Bd. of Trustees, repair burned 3-story structure, 17th St. and Greenup Ave.; fireproof; may make 2-story structure; fire loss \$60,000.

La., Plaquemine—Knights of Columbus, Wm. Grace, member, will erect for brick lodge bldg.; 2 stories, 33x100 ft., rein. conc. foundation, wood floors, tile and marble work, built-up comp. roof, sheet metal work; Wm. R. Burk, Archt., Balter Bldg., New Orleans; owner builds.

Miss., Woodville—Following contractors estimating on \$35,000 Masonic Temple, bids March 19 by R. A. J. Sessions, Chmn. Bldg. Comm.; Albert Plitt, Woodville; W. S. Rutter, Brookhaven, Miss.; Fuller & French, McComb, Miss.; Dye & Mullings, Columbia, Miss.; G. L. Whitaker, Tylertown, Miss.; Keeton & Fairley, 866 Main St., Hattiesburg, Miss.; Walter L. Perry, Philadelphia, Miss.; Robert H. Goodman, Archt., Bank of Baton Rouge Bldg., Baton Rouge, La. 3-5

Tex., Raymondville—A. R. Coulter, member, Bldg. Comm., Three Links Building Co., having plans drawn by Kenneth Williams, Archt., P. O. Box 615, for Odd Fellows Lodge Bldg.; hollow tile, conc. and stucco, 2 stories, 40x60 ft., \$15,000.

Bank and Office

D. C., Washington—W. A. H. Church, Inc., 800 C St., S. W., erect office and lumber sheds, 24th St. and Bladensburg Rd., after plans by Earnest Spink; 2 stories, brick and cement foundation, slate and comp. roof, hardwood floors; bids in. 3-5

Mo., St. Louis—Frank Building Corp., subsidiary of Manhattan-Dearborn Corp., 231 S. LaSalle St., Chicago, Ill., leased property, Twelfth Blvd. bet Olive and Pine Sts., from Nathan Frank, Arcade Bldg.; lessee to erect 29-story office bldg. within 3 years; about \$2,500,000; Preston J. Bradshaw, Archt., 718 Locust St. 5-29

Tenn., Memphis—Rotary Lift Co., 1055 Kentucky St., erect additions to office bldg.; 18x26 ft. and 18x10 ft., conc. floors, comp. roof; John Hunter, Engr., Union Planters Bank Bldg.

Tex., Houston—Jesse H. Jones, Bankers Mtg. Bldg., and associates, reported, plan 10-story building.

Churches

Ala., Birmingham—First Methodist Church, W. M. Given, 4312 S. Ninth Court, Chmn. of Bd., remodel bldg.; new pulpit furniture.

Mo., Sedalia—United Hebrew Congregation purchased property, Broadway and Missouri Ave.; later raze dwelling and erect synagogue.

Mo., St. Louis—St. Philip Neri R. C. Church, Rev. Thos. D. Kennedy, Pastor, 5076 Durant Ave., erect brick bldg., 5036 Thekla Ave.; 1 story and basement, about 155x53 ft., slate or tile roof, conc. and stone foundation, steam heat; Preston J. Bradshaw, Archt., 718 Locust St.; drawing plans.

Mo., St. Louis—St. John The Baptist R. C. Church, Rev. John Peters, Pastor, 4204 Delor St., remodel and erect addition to bldg., 7178 Delor; brick, new front and tower, about 5 stories, 18x90 ft., cement floors, tile roof, stone and terra cotta trim, struct. steel, metal lath, copper sheet metal; Adolph F. & Arthur Stauder, Archt., 3608 Gravois Ave.; about ready for bids.

Miss., Hattiesburg—Hickory Grove Baptist Church, Glendale, T. C. Hobby, Chmn., Bldg., Comm., erect 7-room annex; 1 story, frame; paint present structure.

N. C., High Point—First Baptist Church, Dr. A. B. Conrad, Pastor, plans to remodel bldg.; \$75,000.

Tenn., Nashville—Hillsboro Church of Christ, care Geo. D. Waller, Archt., Ind. Life Bldg., has low bid from W. R. Smith & Son, Cotton States Bldg., for \$35,000 building. 1-22

Tex., Anderson—Methodist Church, Dudley Brown, Chmn., Bldg. Comm., plans brick veneer church.

City and County

La., Lake Charles—Calcasieu Parish Police Jury receives bids April 7 for repairs and alterations to court house; \$12,000; R. S. McCook, Archt., First Natl. Bank Bldg., First Natl. Bank Bldg. 1-15

La., New Orleans—New Orleans City Park Improvement Assn. Bd. of Commrs. have plans by Edw. H. Bennett of Bennett, Parsons & Frost, Landscape Archts., 80 E. Jackson Blvd., Chicago, Ill., for future improvement of City Park annex; about \$3,000,000 would be needed, to be expended over several years; projects include municipal stadium to seat about 30,000 and open air theater.

La., Shreveport—Caddo Parish Police Jury receives bids until April 9 for fireproof jail; rein. conc., brick, 2 stories, steel sash, iron work, built-up comp. roof, steel jail equipment, accommodate 100, \$65,000; Edw. F. Neild, Archt., City Natl. Bank Bldg. 2-19

Mo., Independence—Jackson County, Harry S. Truman, Presiding Judge, votes May 12 on \$200,000 court house remodeling bonds. See City and County—Mo., Kansas City.

Mo., Kansas City—City has low bid at \$22,750 for Fire Station No. 11 and at \$41,924 for Fire Station No. 5 from C. A. Kelly, 3909 Harrison St. 11-13

Mo., Kansas City—City, H. F. McElroy, City Mgr., votes May 12 on \$32,000 bonds, including \$4,000,000 for city hall and site, \$2,000,000 for public hospitals, \$500,000 for city market, \$750,000 for stadium and outdoor theater, \$375,000 for fire department, \$125,000 for district police stations, \$450,000 for municipal auditorium and site; Jackson County, Harry S. Truman, Presiding Judge, votes same date on \$8,450,000 bonds, including \$4,000,000 for court house and site and \$250,000 for detention home and site, both in Kansas City, and \$200,000 to remodel court house in Independence. 1-22

Mo., Neosho—Newton County Bd. of Commrs. may erect court house.

Tenn., Franklin—Williamson County Court, James P. Eggleston, Pointer Bldg., may improve court house; matter probably be taken up at meeting April 6.

Tenn., Union City—Obion County Bd. of Commrs. plans to remodel and erect addition to court house; 2 stories; \$40,000; Anker F. Hansen, Archt., Shrine Bldg., Memphis.

Tex., Beaumont—City receives bids about March 30 for 3 fire stations, Sabine Pass Ave., McFaddin St. and Gladys St.; residence type, fireproof, hollow tile and brick, rein. conc. frame, 2 stories, 30x45 ft., cement, comp. and tile floors, tile roofs; Babin & Neff, Archts., Palatium Bldg. 2-19

Tex., Hamilton—Hamilton County, P. M. Rice, County Judge, voted \$65,000 court house bonds. 2-19

Tex., Lubbock—Following estimating on \$350,000 jail, bids March 16 by Lubbock County Bd. of Commrs.: General—D. N. Leaverton; J. B. Maxey; H. H. Shell & Son; Sampson Construction Co.; Wm. G. McMillan; J. J. Clements; W. S. Moss; J. C. Biffle, all Lubbock; Prison Equipment—Southern Prison Co., 4500 S. Presa St., San Antonio, Tex.; Pauly Jail Building Co., 2215 DeKalb St., St. Louis, Mo.; Stewart Iron Works, 17th St. and Madison Ave., Cincinnati, O.;

Dwellings

D. C., Washington—Clarence E. Bright, 1351 Spring Road, N. W., erect residence, 7125 Sixteenth St.; Jos. Baumer, Archt., 1212 Otis St., N. E.

D. C., Washington—K. N. Miller erect residence, 4635 Brandywine St.; Louis R. Moss, Archt.

D. C., Washington—Breuninger & Phifer, 1103 Vermont Ave., N. W., erect dwelling, 3300 Military Rd.; plans by W. Walter Vaughn, 1013 Vrell Place, N. E.

D. C., Washington—Jackson Bros. erect dwelling, 5415 Nebraska Ave.; plans by Geo. S. White.

D. C., Washington—F. P. Williams has permit for \$10,000 residence, 5516 Broad Branch Rd., N. W.; 2½ stories.

D. C., Washington—William S. Phillips & Co., 34th and Fessenden Sts., N. W., have permit for 2 brick dwellings, 3408-12 Garrison St., N. W.; 2 stories; total \$22,000.

D. C., Washington—John M. King, 1008 11th St., N. W., has permit for 2 frame dwellings, 3612-14 26th St., N. E.; 2 stories; total \$10,000.

Fla., Miami Beach—J. M. Franceschini, Toronto, Can., erect residence, garage and servants' quarters, etc., Collins Ave.; rein. conc., conc. block and stucco, tile roof; Russell Panoast, Archt., 1139 Lincoln Rd., Miami Beach.

Ga., Albany—Wm. C. Potter, 140 Broadway, New York, receives bids March 19 for residence; 2 stories, basement and attic, 92x37 ft., cement, hardwood and tile floors; Hentz, Adler & Shutz, Archts., 1330 Candler Bldg.; following contractors estimating: General—Collins, Holbrook & Collins; Chas. Black, Jr., both Atlanta Trust Bldg., Atlanta; A. C. Knight; R. J. Edgery, both Albany; E. Q. Stacy, Thomasville; Heating—M. W. Wise Plumbing Co., Glenn Bldg., Atlanta; Jas. Watts & Bros., Thomasville; Roscoe Rouse, Valdosta; Paul Elmore, Albany.

Ga., Atlanta—John M. Ogden, 909 Oakdale Rd., receives bids March 23 for brick, stone and hollow tile residence; 2 stories, 38x156 ft., hardwood, slate and tile floors, field stone foundation, variegated slate roof; Richard W. Alger, Archt., 1513 Candler Bldg.; following contractors estimating: Barge-Thompson Co., Ellis St.; Collins, Holbrook & Collins, Atlanta Trust Bldg.; Pittman Construction Co., Rhodes Bldg.; Yost Construction Co., Candler Bldg. 1-22

Ga., Ocilla—H. L. Rogers erect \$10,000 brick residence; 2 stories, hardwood and tile floors.

La., New Orleans—Philip R. Cazale, Archt., 8 Marlborough Ct., receiving bids for raised brick dwelling, 1 story, rein. conc. foundation, tile floors, asbestos shingle roof, orna. iron, sheet metal work, steel sash.

Md., Towson, Baltimore—Edwin Warwick, 505 Park Ave., receives bids March 16 for residence; Cyril H. Hebrank, Archt., 3 E. Lexington St., Baltimore; following contractors estimating: Geo. D. Reed, Hampstead, Md.; C. L. Jarvis, 3604 Woodbine Ave.; J. Vinton Schaeffer, 4 Elm Ave.; Lacchi Construction Co., Munsey Bldg.; Jas. L. Hooper, 5533 Gwynn Oak Ave.; August Di Domenico, 2901 Gibbons Ave.; John Schoelkopf, 400 Lyman Ave., all Baltimore.

Mo., University City, St. Louis—Paul J. Bierman erect English type residence, 7342 Maryland Drive; 3 baths, 10 rooms, 3-car garage; Ed. H. A. Volkman, Archt., 4826 Delmar Ave., St. Louis.

Tex., Houston—W. L. Edmundson, Second Natl. Bank Bldg., has permit for 6 brick veneer dwellings, Pearson, Branard, W. Main, Fourcade and Mabel Sts.; 5 and 6 rooms; total \$12,750.

Tex., Houston—H. Seltzer, 1901 Dennis St., has permit for 4 dwellings, 2402-10 Sunset Blvd.; brick veneer, 6 rooms; total \$12,000.

Tex., Houston—Wallis J. Wade, Archt., completed plans for 2-story dwelling, El Prado and Parkland Drives, Olmons Estates; rock construction, 10 rooms and 2 baths.

Tex., Houston—Fidelity Bond & Mortgage Co., of Texas, Post-Pispach Bldg., W. H. Holland, Pres., develop about 40 acres, Westheimer Rd., for sub-division; start work at once on 10 to 15 dwellings; sell for \$7500 to \$8000 each.

Tex., Liberty—Louisiana Tool Co. erect 12 dwellings at plant under constr. near Trinity River bridge; frame, 5 and 6 rooms.

Tex., Port Isabel—Dr. J. G. Williams, care of Archt., has low bid at \$14,225 from W. A. Velten Construction Co., Brownsville, Tex., for residence, Bayview Citrus Groves near Port Isabel; W. D. Van Sicken, Archt., Brownsville. 1-22

Tex., San Antonio—Clyde Logue, 606 Augusta St., has low bid at \$16,970 from W. A. Sonnen for residence, Fredericksburg Rd.; brick veneer, 2 stories, 54x66 ft., oak, tile and comp. floors, asbestos shingle roof, tile wainscoting, 6 fireplaces; L. Harrington Co., Archt.-Engr., Builders Exch. Bldg.

Va., Fredericksburg—R. B. Payne receives sub-bids until March 10 at office I. T. Skinner, Archt., for residence.

Va., Richmond—Duncan Lee, Archt., completed plans for dwelling, Windsor Farms.

Va., Winchester—Wm. M. Richards erect several dwellings at once in connection with land development.

Government and State

Ga., Fort Benning—Constructing Quartermaster, Capt. W. M. Allison, receives bids until March 31 for 5 field officers' quarters, \$14,500 each, and 51 company officers' quarters, \$12,500 each; stucco, rein. conc. and tile, tile and frame partitions, conc., oak and pine floors, Imperial tile roofs.

Ga., Gainesville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., plans \$300,000 Federal building.

Ga., Valdosta—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., plans \$80,000 addition to courthouse and post office.

Ky., Mayfield—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., appropriated \$65,000 for post office enlargement.

Ky., Paducah—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., appropriated \$130,000 for post office extension.

La., Barksdale Field, Shreveport—Constructing Quartermaster, Barksdale Field, Capt. Geo. E. Lamb, receives bids until Mar. 27 for 30 double sets of non-commissioned officers' quarters, bids until April 9 for enlisted men's barracks to accommodate 330, 220 and 165 men, and bids until April 10 for 40 officers' quarters; total about \$1,500,000. 2-19

La., Barksdale Field, Shreveport—Constructing Quartermaster, Capt. Geo. E. Lamb, has low bid at \$86,842 from Ashton Glassell Co., Inc., 260 Cadillac St., Shreveport, for 1 quartermaster maintenance shop, 1 quartermaster warehouse and 1 quartermaster garage, Barksdale Field. 2-19

Md., Fort Hoyle—Following have received specifications and drawings on 3 sets of non-commissioned officers' quarters, bids March 25 by Constructing Quartermaster: Frank Spiegel, Fullerton, Md.; Chas. A. Betz, Stemmers Run, Md.; B. H. Davis, Woodbine, Pa.; Thos. A. Borneman, Havre de Grace, Md.; Crane Co., 1225 I St., N. W. Washington, D. C.; R. G. Hopkins, 904 E. 41st St., Baltimore, Md. 3-5

Miss., Clarksville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., plans to remodel and enlarge Federal bldg.; \$125,000.

Miss., Greenville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids April 2 for remodeling and enlarging post office; drawings from office Supvg. Archt.

Mo., Jefferson Barracks, St. Louis—Constructing Quartermaster receives bids until April 1 for 1 double set of non-commissioned officers' quarters.

N. C., Fort Bragg—Following have plans and specifications for 3 field officers', 6 company officers' and 4 non-commissioned officers' quarters, bids March 26 by Construct-

ing Quartermaster: York Construction Co., Odd Fellows' Bldg.; Biemann & Rowell, 401 W. Martin St.; W. B. Barrow; W. H. Bond Co., Inc., both Raleigh Banking & Trust Bldg.; Howard E. Satterfield, 201 Groveland Ave., all Raleigh, N. C.; U. A. Underwood Co., Murchison Bldg., Wilmington, N. C.; Jewell-Riddle Co., Inc.; W. L. Jewell, both Sanford, N. C.; Carolina Heating & Engineering Co., 318 Holland St., Durham, N. C.; Gate City Roofing Co., Railroad St.; Angle-Blackford Co., Amer. Bank Bldg.; Chas. Herbert Spring; Geo. W. Kane, both Jefferson Bldg., all Greensboro, N. C.; Southeastern Construction Co., 210 W. Second St.; Grinnell Co., Inc., 30 E. Fourth St., both Charlotte, N. C.; W. T. Gregory, Law Bldg., Norfolk, Va.; Samford Bros., Inc., 301 Washington Ave.; Algernon Blair, First Natl. Bk. Bldg., both Montgomery, Ala.; Fiske-Carter Construction Co., 121½ W. Main St., Spartanburg, S. C.; John C. Heslep, Carolina Bank Bldg., Columbus, S. C.; Potter & Shackelford, Inc., Allen Bldg., Greenville, S. C.; Warner Service Co., 102 W. Clinch Ave., Knoxville, Tenn.; Crane Co., 1225 I St., N. W., Washington, D. C.; Poe Piping & Heating Co., 108 S. Main St., Greenville, S. C.; E. F. Taylor, Peoples Bank Bldg.; A. T. Griffin, George St., both Goldsboro, N. C.; Southern Builders, Inc., Florence, S. C.; Decatur Corncil & Roofing Co., Decatur, Ala.; Rogers & Leventhal, Inc., 822 E. 11th St., Chattanooga, Tenn.; W. F. Jackson Co., Red Rock Bldg., Atlanta, Ga.; Waters Bros., Rocky Mount, N. C.; A. S. Bacon & Sons, Schwarz Ave., Savannah, Ga.; Taylor Stone Co., McDermott, O. 2-5

N. C., Raleigh—State Legislature joint appropriations comm. approved bill permitting use of \$400,000 bonds, authorized several years ago to purchase prison farm, for erection of central prison at prison farm near Raleigh.

Okla., Frederick—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$56,990 from Upchurch Construction Co., Montgomery, Ala., for post office. 2-26

Tenn., Elizabethton—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected Sycamore and E Sts., as site for \$125,000 post office. 7-10

Tenn., Union City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$13,474 from Upchurch Construction Co., Montgomery, Ala., for remodeling and enlarging post office. 2-26

Tenn., Murfreesboro—Prospective estimators on post office remodeling, bids March 18 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; E. E. Ward & Sons, Washington; A. F. Hahn, 45 Chamberlain Bldg., Chattanooga, Tenn.; C. E. King, 1009 Wertland St., Charlottesville, Va.; Tioga Contracting Co., 921 Tioga St.; Theriault Contracting Co., 534 E. Johnson St., both Philadelphia, Pa.; Earl E. Garber & Co., 203 W. Fourth St., Bethlehem, Pa.; W. P. Francis, 201 Luckie St., Atlanta, Ga. 2-26

Tex., Fort Sam Houston, San Antonio—Constructing Quartermaster, Capt. H. B. Nurse, Fort Sam Houston, opens bids April 3 for 3 field officers' quarters and for 14 company officers' quarters; former 2 stories, 54x53 ft., struct. clay tile and stucco, \$14,500 each; latter 1 story, 32x37 ft., brick, struct. clay tile, struct. steel and rein. conc., \$12,500 each. 3-5

Tex., Galveston—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., has appropriation for \$375,000 immigration station and detention bldg., A, B, 17th and 18th Sts., Galveston Island. 11-27

Tex., Henderson—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., appropriated \$80,000 for post office.

Tex., Lubbock—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids April 10 for constr. (except elevators) of post office, etc.; \$350,000, fireproof, stone face, red tile roof, 3 stories and basement, 104x87 ft., tile floor and marble wainscoting in lobby, acoustical treatment; drawings from office Supvg. Archt. 1-22

Tex., Presidio—U. S. Dept. of Agriculture Plant Quarantine & Control Administration, Washington, opens bids March 13 for fumigation house; 3-course brick walls, fumigation chambers about 29x148 ft., 17 ft. high, 28-gage galvanized ceilings, 1 center partition; storerooms 17x83 ft.; 5-ply built-up roofs; plans by Dr. Lon A. Hawkins, Engr., P. Q. C. A., Washington. Address Chief, Div. of Purchase, Sales and Traffic, U. S. Dept. of Agriculture, Washington.

Tex., Randolph Field—Constructing Quartermaster has low bid at \$47,800 from Collier Construction Co., 500 E. 102nd St., Cleveland, O., for elect. distribution system, Randolph Field. 2-19

Va., Danville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., appropriated \$500,000 for post office bldg. and site.

Va., Fort Monroe—Constructing Quartermaster, oFrt Monroe, receives bids until April 7 for 2 Air Corps Barracks for 163 men and 1 for 330 men, both Langley Field; information on application.

Va., Fortress Monroe—Constructing Quartermaster, Capt. Geo. H. Schumacher, has low bid at \$110,600 from Townsend Lumber Co., Anderson, S. C., for bachelor officers' quarters, Fort Monroe. 2-12

Va., Langley Field, Hampton—Prospective estimators on 16 double company officers' quarters, bids March 20 by Constructing Quartermaster, Fort Monroe, Va.; Davis Bros., Inc., 1716 Summit Ave.; W. P. Thurston Co., P. O. Box 2089; Miller Manufacturing Co., Inc., Stockland and Sixth Sts.; Doyle & Russell, Grace Amer. Bldg., all Richmond, Va.; Virginia Engineering Co.; Noland Co., Inc.; Harwood Construction Co., Law Bldg., all Newport News, Va.; W. F. Martens, P. O. Box 128, Hampton, Va.; Chas. T. Taylor, 17 S. King Street, Hampton, Va.; J. A. Jones Construction Co., 411 Commercial Bk. Bldg., Charlotte, N. C., and Box 131, Richmond; L. McCloud, 357 Arcade Bldg.; Enterprise Co., Twin City Bldg.; Carl Schadel, Saratoga St., all Norfolk, Va.; W. F. Jackson Co., 307 Bldrs. Bldg.; Southeastern Construction Co., P. O. Box 413; Joe B. Martin, 16 S. Poplar St.; Little Construction Co., Builders Bldg., all Charlotte, N. C.; U. S. Underwood Co., C. Bk. Bldg., Wilmington, N. C.; Batson-Cook Co., Inc., West Point, Ga.; Fiske-Carter Construction Co., Worcester, Mass., and Spartanburg, S. C.; Townsend Lumber Co., Anderson, S. C.; Roanoke Iron Works, Inc., Roanoke, Va.; Worsham Bros., 204 Medical Arts Bldg., Knoxville, Tenn.; Ed. S. Moore & Son, 610 N. Washington St., Kokomo, Ind.; Morley Construction Co., 1643 Bellevue Ave., Kansas City, Mo.; Brooklyn Queen Screen Manufacturing Co., Inc., 17 Williams Ave., Brooklyn, N. Y.; Jewell-Riddle Co., Inc., Sanford, N. C.; Elliott Manufacturing Co., Inc., Hickory, N. C.; J. C. Heslep, Carolina Bk. Bldg., Columbia, S. C.; Crane Co., 1226 I St., N. W., Washington, D. C.; Taylor Manufacturing Co., Fredericksburg, Va.; Karlstromer & Broyhill, Hopewell, Va.; Cut Stone Association of Indiana, Bloomington, Ind.; Murch Bros. Construction Co., Ry. Exch. Bldg., St. Louis, Mo.; Nicola Building Co., 6388 Penn Ave., Pittsburgh, Pa.; Dietrich Bros., Pleasant and Davis Sts., Baltimore, Md.; Automatic Combustion Engineering Co., Inc., 17 Battery Place, N. Y. 2-26

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, Va., receives bids until April 1 for 20 double non-commissioned officers' quarters, Langley Field; information on application.

Va., Occoquan—District Commrs., Dist. Bldg., Washington, D. C., has \$150,000 available for new bldgs., District Workhouse and Reformatory.

W. Va., Huntington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., plans addition to Federal bldg.; Carl R. Varnum, Postmaster.

Hospitals, Sanitariums, Etc.

D. C., Washington—President signed bill appropriating \$20,800,000 for hospital program for U. S. Veterans' Bureau; \$5,000,000 immediately available.

Ga., Winder—Matthews General Hospital plans rebuilding structure recently burned at \$35,000 loss.

La., New Orleans—Following contractors estimating on 8 personnel quarters, U. S. Marine Hospital, bids March 19 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Grahm Construction Co., Red Rock Bldg., Atlanta, Ga.; R. P. Farnsworth & Co., Inc., Maritime Bldg.; J. M. DeFraithe, Inc., 620 State St.; H. W. Bond & Bro., 816 Howard Ave.; J. V. & R. T. Burkes, Inc., Amer. Bk. Bldg., all New Orleans; Rosen & Fischel, Inc., 11 S. LaSalle St., Chicago, Ill.; Fanning & Sweeney, Inc., Jefferson Bldg., Greensboro, N. C.; Worsham Bros., Empire Bldg., Knoxville, Tenn. 2-19

Md., Baltimore—Johns Hopkins Hospital having plans drawn by Archer & Allen, Archts., 3 E. Lexington St., for animal house above existing bldg.; preliminary plans.

Md., Baltimore—Nursery and Childs' Hospital, John B. Gontrum, Chmn., New Amsterdam Bldg., considers erecting hospital; O. Eugene Adams, Archt., 329 N. Charles St.

Md., Cambridge—Cambridge Hospital Bd. of Directors has gift of \$25,000 to complete nurses' home; 23 bedrooms.

Miss., Jackson—Following have plans for 12 bldgs., Mississippi Insane Hospital, Whitefield, bids March 21 at office Chas. A. Gordon. Sec. Mississippi Building Comsn., New Capitol Bldg., Jackson; Walter L. Perry, Philadelphia, Miss.; O. M. Gwin Construction Co., 3503 Fern St., New Orleans, La.; Lockard & Vaughn, Kidder Bldg.; L. W. Hancock, Asylum Heights, both Meridian, Miss.; Fiske-Carter Construction Co., Masonic Temple Bldg., Greenville, S. C.; Hamilton & Begely; Consolidated Contractors, Inc., 658 East St.; Gauger Construction Co., Fidelity Bank Bldg., all Memphis, Tenn.; Smith-Pew Construction Co., Inc., 435 Irwin St., N. E., (dining hall only), Atlanta, Ga.; Keston & Fairley; Oden & Glenn, Carter Bldg., both Hattiesburg, Miss.; G. F. Hays & Sons (patients' bldgs. only), Union, Miss.; M. T. Reed Construction Co., Belzoni, Miss.; Key-Longston Co., Murray, Ky.; W. S. Rutters; Lee McDavitt, Brookhaven, Miss.; C. N. Flowers; W. G. Wetmore Const. Co., 867 E. Mississippi St., W. D. Jones, 418 High St.; I. C. Garber, Standard Life Bldg., all Jackson, Miss.; Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala.; J. L. Simmons, Springfield, Ill.; W. E. Rubush, 831 S. Oregon Ave., Tampa, Fla.; Currie & Corlie, Raleigh, Miss. 2-26

Mo., Kansas City—City, H. F. McElroy, City Mgr., votes May 12 on \$2,000,000 bonds for health service facilities. See City and County. 1-22

Tenn., Memphis—Prospective estimators Veterans Hospital, bids March 17 by U. S. on boiler house, garage and chimney, U. S. Veterans Bureau, Arlington Bldg., Washington, D. C.; Consolidated Contractors, Inc., 658 East St.; S. & W. Construction Co., Shrine Bldg.; J. J. Nolan & Co., Inc., 235 Court Ave., all Memphis; H. R. Heincke (chimney), 342 Madison Ave.; American Chimney Corp., 147 Fourth Ave., both New York; J. Howard Chrislip (electric), 199 Magnolia Ave., Clarksville, W. Va.; Mesker Bros. Iron Co., 424 S. Seventh St. (windows); Sodemann Heat & Power Co. (heating), 2300 Morgan St.; Wm. MacDonald Construction Co., Synd. T. Bldg., all St. Louis, Mo.; Samford Bros., Inc., 301 Washington Ave.; Algernon Blair, First Natl. Bank Bldg., both Montgomery, Ala.; Burnley Machinery Co., Liberty Natl. Bk. Bldg.; S. C. Ross & Son, both Oklahoma City, Okla.; D. F. Brandon, 201 Chestnut St., Chattanooga, Tenn.; Fayette Construction Co., 500 W. Short St., Lexington, Ky.; Adamson, Boyleson & White, 1101 First Ave., North, Birmingham, Ala.; W. P. Thurston Co., Inc., 301 S. Fourth St., Richmond, Va.; Brownell Co. (boiler), Dayton, O.; Stanwood Corp. (boiler), Third and Philadelphia Sts., Cincinnati, O.; Hamilton Engineering Co., Harrison-Wright Co., both Charlotte, N. C.; Freeman Manufacturing Co., Racine, Wis.; Bryce Plumbing & Heating Co., Florence, S. C.; Hallbauer-LaBahn, Inc., 844 Rush St.; Harman Engineering Co., 844 Rush St.; Weber Chimney Co., 1542 McCormick Bldg.; Singer-Kennedy Corp. (chimney), 203 S. Dearborn St., all Chicago, Ill.; Yeager & Sons, Danville, Ill.; Decatur Iron & Steel Co. (material), Decatur, Ala.; J. L. Powers (plumbing and heating), 227 E. Main St., Bennettsville, S. C.; Richmond Fireproof Door Co. (material), Richmond, Ind.; E. Keeler Co. (boiler), Williamsport, Pa.; David Lupton's Sons Co. (windows), Shoreham Bldg.; Rust Engineering Co., District Natl. Bank Bldg.; Crane Co., 1225 I St., N. W.; Truscon Steel Co. (windows), Hill Bldg.; Enterprise Oil Burner Corp.; Detroit Steel Products Co. (windows), Barr Bldg., all Washington; Virginia Engineering Co., Newport News, Va.; Frank P. Boyd, 1019 Lafayette Ave., Columbus, Ind.; Broome Electric Co. (electric), P. O. Box 1472, Amarillo, Tex.; Morley Construction Co., 1643 Bellevue Ave., Kansas City, Mo.; O'Pry Heating & Plumbing Co. (plumbing and heating), Walton Bldg., Atlanta, Ga.; Erie City Iron Works (boiler), Hearst Tower, Baltimore, Md. 2-26

Tex., Galveston—Sealy & Smith Foundation, Dr. Edw. Randall, Chmn., Bldg. Comm., will call for bids by March 15, contract to be let April 15, for nurses' home, \$350,000, John John Sealy Hospital; conc. frame, brick and stone exterior, pile foundation, 4 stories, E shape, 200x88 ft., terrazzo, tile and rubber floors, tile and built-up roof; Robt. Leon White, Archt.-Engr., care University of Texas, Austin. 1-1

Tex., Houston—Houston Negro Hospital, 2900 Elgin St., has permit for \$60,000 nurses' home, 2901 Holman St.

Hotels and Apartments

Tenn., Chattanooga—Leonard Haas, Candler Bldg., Atlanta, Ga., and associates, acquired Fairland Inn, Lookout Mountain; reported, plans remodeling and additions.

Tex., Gilmer—W. C. Barnell, Chmn., Com., promoting erection of \$50,000 hotel.

Tex., Nacogdoches—Liberty Hotel, R. A. Johnson, Mgr., plans 40-room annex.

Va., Winchester—Wm. E. Richards erect several apartment houses in connection with development subdivision, Fairmont Ave. and Piccadilly St.

Miscellaneous

D. C., Washington—Kent Automatic Garage & Washington Market Corp., being organized; John W. Newman, Mgr., Southern Bldg., and associates; construct \$5,000,000 project to include garage, market, storage, restaurant and recreational facilities, 10th, 11th, H and I Sts., Boyd, Able & Gugert, Archts. & Engrs., Otis Bldg., Philadelphia, Pa. See Construction News—Garages and Filling Stations.

D. C., Washington—Edw. St. Cyr Barrington, Archt., 1315 H St., N. W., preparing plans for 2-story, brick restaurant and night club.

Fla., Miami Beach—N. B. T. Roney, Roney Plaza Hotel, plans \$300,000 expansion program for Cabana Sun Club including two pools, 165 additional cabanas, shops covering 300 ft. frontage; Robert A. Taylor, Archt., 418 Espanola Way.

N. C., Kitty Hawk—Wright Memorial Bridge Co., owners of Currituck-Dare Bridge and beach property, having plans drawn for bath house and pavilion for Kitty Hawk Beach.

Schools

Ark., Clarksville—School Bd. plans grade school on West Hill.

Ark., Jonesboro—Agricultural and Mechanical College, Dr. V. C. Kays, Pres., erect \$200,000, 3-story, fireproof administration building containing science laboratories, library and chapel, as well as recitation rooms; equipment, \$50,000; library equipment and books, \$50,000; prob. erect heating plant and student commons buildings later in year.

Ark., Little Rock—State, Gov. Harvey Parnell, approved bill providing \$1,000,000 building fund for following schools: State Teachers' College, Conway, \$150,000; Henderson State Teachers' College, Arkadelphia, \$140,000; A. & M. College, Jonesboro, \$140,000; A. & M. College, Magnolia, \$140,000; A. & M. College, Monticello, \$140,000; Junior Agricultural School, Beebe, \$50,000; Western Arkansas Junior College, Mena, \$50,000; State Normal School of the Ozarks, Harrison, \$50,000.

D. C., Washington—The George Washington University plans student union bldg. to cost approx. \$78,000; also plans remodeling and enlarging library, \$40,000.

Fla., Tallahassee—Following contractors estimating on 3-story and basement, 45x71 ft., rein. conc. struc. steel, brick, hollow tile, east stone history wing building at Florida State College for Women, bids March 16 by State Bd. of Control, P. K. Yonge, Chmn., White House Hotel, Gainesville; Grahn Construction Co., Red Rock Bldg., Atlanta, Ga.; Arthur F. Perry, Jr., Barnett Natl. Bank Bldg.; Geo. W. Hessler, Inc.; S. S. Jacobs Co. and J. M. Raymond Construction Co., both Hildebrandt Bldg.; Geo. D. Auchter, 600 E. Fourth St.; O. P. Woodcock Co., Duval Bldg., all Jacksonville; G. A. Hanson Co., First Natl. Bank Bldg., Tampa; Winston & Penn, Gainesville; plans by Rudolph Weaver, Board Archt., Peabody Hall, Gainesville. 2-26

Ga., Young Harris—Young Harris College, Jack T. Lance, Pres., plans \$225,000 classroom building; financing; architect not selected.

Ky., Owensboro—Bd. of Education plans \$80,000 Longfellow School.

La., Amite—Tangipahoa Parish School Bd. called election April 6 in Eighth Ward on \$25,000 bonds for Jr. High School.

La., Baton Rouge—East Baton Rouge Parish School Bd. ready for bids about end of March for one-story, 60x100 ft. gymnasium building and one-story, 30x90 ft. science building at Istrouma elementary school; \$75,000, brick, maple floors, comp. roof; Lewis A. Grosz, Archt., Raymond Bldg.

La., Baton Rouge—Louisiana State University, Dr. James M. Smith, Pres., ready for bids about April 15 for \$500,000, 3-story and basement, 280x432 ft. women's dormitory; accommodate 400; provide gymnasium and parlors, and in addition laundry and kitchenette in each wing, infirmary to accommodate 20 girls; Wogan & Bernard, Archts., Old Raymond Bldg., Baton Rouge; Weiss, Dreyfous & Seiferth, Asso. Archts., Maison Blanche Bldg., New Orleans. 2-26

La., New Orleans—Orleans Parish School Bd. soon ready for bids for 3-story, 90x170 ft., brick, stone trim elementary school adjacent to Henry W. Allen Commercial High School; 16 classrooms, comp. roof, wood floors, accommodate 700 pupils; A. E. Christy, 302 Walnut St., Supvg. Archt. for School Bd.

La., Vacherie—Following contractors estimating on 2-story, 70x90 ft., frame, 10-classroom and auditorium addition to elementary school at Vacherie and alterations and 8-

classroom addition to frame school at Romeville, bids March 24 by St. James Parish School Bd., Convent; William Wallace, Pere Marquette Bldg.; J. A. Petty & Sons, Inc., Audubon Bldg.; Saputo & Governali, 823 Perido St.; Caldwell Bros., 816 Howard Ave.; J. A. Haase, Jr., 916 Union St., all New Orleans; Anzalone Construction & Supply Co., Independence; Wm. R. Burk, Archt., Balter Bldg., New Orleans. 3-5

Md., Rockville—Montgomery County asked Legislature for authority to issue \$2,144,000 bonds for construction, repair and equipment of school buildings; funds to be designated as general construction for 1931, 1932 and 1933.

Md., Parkton—Baltimore County Bd. of Education, C. G. Cooper, Supt., Towson, purchased site near Ecklo for erection of consolidated school to cost \$80,000; purchased site at Whitehouse for similar school; negotiations under way for purchase site near Parkton; Smith & May, Archts., Balto. Trust Bldg., Baltimore. 3-5

Miss., Clinton—Clinton Consolidated School Dist., Dr. A. F. Wood, Pres., Bd. of Trustees, receives bids March 19 for \$45,000, 2-story, 142x54 ft., brick school; 10 classrooms, built-up comp. roof; separate bids as follows: General contract, plumbing, heating, electric wiring; grading athletic field; J. M. Spain, Archt., Merchants Bank & Trust Co. Bldg., Jackson; following contractors estimating: General—W. J. McGee & Son, Lamar Bldg.; Currie & Corley, W. Silas Brown St.; I. C. Garber, Standard Life Bldg.; Westerfield & Weeks, Lamar Bldg., all Jackson; Lockard & Vaughan, Kidder Bldg., Meridian; Keeton & Fairley; Oden & Glen, Carter Bldg., both Hattiesburg; W. L. Perry, Philadelphia, Miss.; A. M. Allen, Moorhead; M. J. Lanburn, Clinton; Dye & Mullings, Columbia; W. S. Rutter, Brookhaven; W. T. Bekleheimer, Salisbury, Mo.; Mechanical—Davis Plumbing Co.; S. S. Richard; Tille Plumbing Co.; El Dorado Heating & Plumbing Co., all Jackson; Fischer Heating & Plumbing Co., 367 Adams St., Memphis, Tenn. 6-12

Miss., Morton—Morton Consolidated School Dist. votes March 27 on \$55,000 for brick high school; 145x120 ft., stone trim, comp. and tile roof; Hull & Malvaney, Archts., Merchants Bank Bldg., Jackson. 2-19

Miss., Pascagoula—Jackson County Bd. of Supervisors rejected bids and call for new bids April 6 for school for Orange Lake Consolidated School Dist.; Shaw & Woleben, Archts., Gulfport. 2-12

N. C., Norwood—Stanley County Bd. of Education, Albemarle, J. P. Sifford, Supt., erect \$40,000 high school; brick, 2 stories, 11 classrooms, library, reading room and laboratory; Thomas H. Yoe, Archt., Salisbury.

N. C., Raleigh—Bishop Payne Divinity School, Episcopal School for Negroes, Petersburg, Va., considering moving to Raleigh to be affiliated with St. Augustine College; plans to raise \$60,000 with which to improve physical plant of ministerial training school.

Tex., Beeville—Beeville Ind. School Dist., John R. Beasley, Pres. Bd. of Trustees, voted March 28 on \$125,000 bonds for grade school, Mexican School, negro school, gymnasium and repairs to senior high school and grammar schools; brick struc. clay tile and rein. conc.; Malcolm Simons Builders Exchange Bldg., San Antonio, and Beeville, and W. C. Stephenson, Beeville, Asso. Archts. 2-12

Tex., Dallas—Bd. of Education, N. R. Crozier, Supt., erect 4-room addition to Clinton P. Russell elementary school, S. Beckley Ave. and Freeman St.; \$25,000; M. C. Kleuser, Archt., Construction Bldg.

Tex., San Antonio—Bd. of Education, Dr. J. A. McIntosh, Pres., receives bids March 19 for stage equipment, projection room equipment, and classroom and auditorium seating for \$1,000,000 Spanish Acres High School under construction; date to be announced for opening bids on kitchen and cafeteria equipment, library, office and misc. furniture, window shades and draperies, gymnasium equipment, etc.; bids in for steel locker equipment, laboratory, vocational and business training equipment, all for same school; Phelps & Dewees, School Archt., Gunter Bldg.; Adams & Adams, Archts., Western Natl. Bldg.; Walsh, Burney & Key, Gen. Contrs., 928 N. Flores St. 10-30

Va., Charlottesville—University of Virginia, Dr. Edwin A. Alderman, Pres., receives bids March 17 (extended date) for \$300,000, 3-story, rein. conc. struc. steel, brick and tile Clark Memorial Law Bldg.; following contractors estimating: W. T. Gregory; Johnson Construction Co., both Law Bldg., Norfolk; Virginia Engineering Co., First Natl. Bank Bldg.; Harwood Construction Co., Law Bldg., both Newport News; J. C. Curtis, Denbigh; W. P. Thurston Co., Box 2089; The J. W. Cowper Co., State Planters Bank Bldg.; J. R. Jones & Conquest, Inc., Central Natl. Bank Bldg.; John T. Wilson Co.; Wise Granite & Construction Co., both Mutual Bldg., all Richmond; The Wilson Co. and Charlottes-

ville Lumber Co., both Charlottesville; Fred B. Fuqua & Co., Krise Bldg., Lynchburg; D. J. Phipps, 212 Main St.; J. F. Barbour & Sons, Colonial-American Natl. Bank Bldg., both Roanoke; Consolidated Engineering Co., 20 E. Franklin St., Baltimore; George W. Kane, Jefferson Standard Bldg., Greensboro, N. C.; North-Eastern Construction Co., Nissen Bldg., Winston-Salem, N. C.; J. J. McDewitt Co., Builders Bldg., Charlotte, N. C.; C. M. Guest & Sons, Box 22, Anderson, S. C.; Fiske-Carter Construction Co., 121 Main St., Spartanburg, S. C.; Southern Ferro Concrete Co., Atlanta Trust Bldg., Atlanta, Ga.; plans at office Architectural Comsn., John K. Peebles, Chmn., Law Bldg., Norfolk; also at office Taylor & Fisher, Baltimore Trust Bldg., and Builders Exchange, 12 W. Madison St., both Baltimore. 3-5

Va., Hampton—School Bd. make alterations and erect additions to Hampton High School; Charles M. Robinson, Architect, Times-Dispatch Bldg., Richmond; bids in.

Va., Salem—Roanoke County votes April 14 on \$350,000 bonds for following building program: 30-room high school at Salem, \$200,000; 4-room addition to high school and study hall at Vinton, \$25,000; 4-room unit at elementary school, Vinton, \$20,000; one-room addition and other improvements at Mount Pleasant, \$8500; one-room addition and other improvements at Pleasant View, \$20,000; 4-room school and general improvements at Oakland, \$28,000; 2-room addition, heating plant and general improvements at Garden City, \$14,000; 4-room addition at Back Creek, \$16,000; 4-room unit near Conehurst, Washington Heights, \$23,000; 2-room addition at Catawba, \$7000; Roland E. Cook, Supt. of Schools. 2-19

Stores

D. C., Washington—Penn Realty Co., 133 Pennsylvania Ave., N. W., receives bids Mar. 20 for 2-story, 100x110 ft., brick, struc. steel store and office building, Fifth and K Sts., N. W.; built-up roof, hot water heat, wood floors; Julius Wenig, Archt., Edmonds Bldg. 2-26

Ga., Atlanta—Lane Drug Co., R. N. Chelf, 20 Fifth St., N. W., remodel and erect addition to store, Peachtree St. and Auburn Ave., to be occupied by Sam Asher & Bros., 65 Peachtree St., N. E.

La., Jennings—Jennings Piggly-Wiggly Store, George Brower, Propr., erect 40x110 ft. store.

La., Opelousas—Ben Christman, owner of Waldorf Hotel, purchased site on S. Court St., running back to hotel, on which he will erect 6 or 7 stores, and include in project Court St. entrance, lobby and number of extra rooms to connect with hotel.

Md., Baltimore—Samuel Shuman, 6716 Harford Ave., ready for bids for 2-story, brick store and apartment, Harford Road and Northern Parkway.

Miss., Prentiss—V. B. Carraway, Bassfield, plans brick store building.

Tex., Corpus Christi—The Simon-Cohn & Co., 623 Chaparral St., plans 2-story building in 700 block Chaparral St.; brick, rein. conc. and tile.

Tex., Longview—I. A. Sessums soon begin work on two brick stores on E. Tyler St.; \$30,000.

W. Va., Huntington—Bradshaw-Diehl Co., H. T. Diehl, 1001 Third Ave., soon let contract for erecting 2-story structure at 1017 Third Ave. and rebuilding 3-story, brick building, 1019 Third Ave., for store to be occupied by Scott Stores, Inc., 430 W. Randolph St., Chicago; \$25,000. 2-19

Theatres

Miss., Aberdeen—Elkin Brothers purchased Glasscock property on Commerce St. and rebuild as lobby or arcade for motion picture theater to be built in rear.

Tenn., Chattanooga—Management, Bijou Theater plans \$50,000 improvements.

Tex., Amarillo—J. N. Beasley, J. Ray, both Fisk M. & P. Bldg., and others erect \$400,000 theater, 9th and Polk Sts., to be leased to Paramount-Publix Corp., Paramount Bldg., New York; seat 1400 people; provide series of shops on both Polk and 9th Sts.; terra cotta front.

Tex., Beaumont—Mr. Kyle, owner of Kyle Theatre, plans to raze present structure and erect \$85,000 building; provide stores; Babin & Neff, Archts., Perlestein Bldg.

Tex., Hallettsville—Company, care P. M. Brown, Brown's Shoe Store, receives bids March 23 for theater; one story, struc. clay tile and stucco; J. W. Clossen, Archt., El Campo.

Tex., Longview—East Texas Theaters, Inc., Beaumont, reported, erect \$150,000 theater.

Warehouses

D. C., Washington—Thos. Somerville Co., 312 Thirteenth St., N. W., having plans revised by J. J. Moebis, Dupont Circle at Connecticut Ave., for 3-story, 60x250 ft., rein. conc., hollow tile and brick warehouse and office building, 6015 Blair Road, N. W.; slag roof, steam heat, electric elevator and lift. 1-29

La., Baton Rouge—Jahncke Service, Inc., ready for bids, date not determined, for one-story, 141x83 ft., frame and stucco warehouse and office building, North Blvd. and S. 14th St.; brick and hollow tile work, cement floors, asbestos shingle roof; following esti-

mating: B. Ransom, Mayola Bldg.; L. W. Eaton, 1601 N. Blvd.; W. M. Day, 2318 Spain St.; Clifford H. King, Prescott Lane; J. H. Fitzgerald, Jefferson Highway; The Burkes Co., Inc., N. Blvd.; Robert Thibodaux; L. A. Onellion, Box 681; H. P. & H. O. Pylant, 1929 America St.; August Barbay, Lodell Lane A. C. Stewart, 810 E. Boulevard; M. P. Thiel, Brenville Capital Heights, all Baton Rouge; Weiss, Drefous & Seifert, Archts., Maison Blanche Bldg., New Orleans.

Tex., Dallas—J. E. Bush, Santa Fe Bldg., has permit for \$12,000, one-story, brick warehouse and office, 2330 Summer St.

Tex., Henderson—Producers' Supply Co. erect warehouse.

BUILDING CONTRACTS AWARDED

Bank and Office

Md., Baltimore—Central Savings Bank, Lexington and Charles Sts., remodel bank; stone; Archer & Allen, Archts., 3 E. Lexington St.; M. A. Long Co., Contr., 10 W. Chase St.

Okla., Oklahoma City—American Bridge Co., 71 Broadway, New York, reported, has contract for 225 tons rein. steel for \$3,000,000 Ramsey Bldg. for Starrett Investing Corp.; Walter W. Ahlschlager, Inc., Archt., 10 N. Clark St., Chicago, Ill., and 565 Fifth Ave., New York; Drury Moseley Co., Asso. Archts., Perrine Bldg., Oklahoma City; Starrett Bros., Inc., Contrs., 8 S. Dearborn St., Chicago, and 101 Park Ave., New York. 1-29

Churches

Mo., St. Louis—Additional sub-contracts let on \$250,000 Temple Shaare Emeth; Fire doors, St. Louis Fire Door Co., 1134 S. Sixth St.; plumbing, Sam Burman & Co., 4659 Page St.; elect. work, S. C. Sachs, Inc., 1422 Olive St.; plastering, G. F. Robertson Plastering Co., Inc., Paul Brown Bldg.; roofing, P. S. Naughton Roofing Co., 1431 Cora St.; brick, Reinschmidt Bricklaying Co., 4746 Manchester St.; struct. steel, Superior Structural Steel Co., 5100 Farlin St.; misc. iron, Usona Mfg. Co. Iron Works, 3510 Chouteau St., all St. Louis; steel sash, International Casement Co., Jamestown, N. Y.; Alfred S. Alschuler, Asso. Archt., Stelger Bldg., Chicago, Ill.; H. J. Elson, Consit. Engr., 208 N. Broadway; McCormack-Combs Construction Co., Contr., Columbia Bldg., both St. Louis. 1-8

Mo., St. Louis—Bradley Heating Co., 3834 Olive St., has heating contract for \$260,000 Memorial Presbyterian Church auditorium; plumbing, Thos. J. Sheehan Co., 2233 Olive St.; wiring, Rick Electric Co., 162 Chestnut St.; Aegerter & Bailey, Archts.; Murch Bros. Construction Co., Contr., both Ry. Exch. Bldg. 2-12

Mo., St. Louis—Missouri Conference Assn. S. D. A., 815 Chestnut St., started work on \$18,000 bldg., 1208 N. Sarah St.; brick, 1 story, 42x79 ft., comp. roof, steam heat; O. J. Popp, Archt., Arcade Bldg.; W. B. Jarvis, Contr., 4549 Page Ave.

City and County

La., Hahnville—St. Charles Parish Police Jury let contract at \$32,000 to J. A. Haase, Jr., 916 Union St., New Orleans, for fireproof jail; brick and rein. conc., 3 stories, 35x65 ft., comp. roof, struct. steel and iron work, steam heat; steel jail equipment, Southern Prison Co., San Antonio, Tex., at \$18,000; Wm. R. Burk, Archt., Balter Bldg., New Orleans. 2-5

N. C., Wilmington—City let contract to U. A. Underwood, Inc., Murchison Bldg., for \$12,000 fire station; brick, steel beams, wood joists and rafters, 2 stories, 30x70 ft., cement, hardwood and tile floors, tile roof, metal ceilings, plaster board, steel sash and trim, conc. foundation; Lynch & Foard, Archts., Southern Bldg. 2-26

Va., Newport News—City let contract to Harwood Construction Co., Law Bldg., for prison barracks, City Farm. 11-6

Dwellings

Ark., Fayetteville—Paris R. Green considers erecting 3 dwellings in Summer; brick and brick veneer, 1 story, 5 and 6 rooms; hardwood floors, comp. roofs, gas heat; total \$12,000; owner builds.

Ark., Fayetteville—Louis L. Riggs, Meade, Kan., and Fayetteville, considers erecting \$10,000 residence latter part of Summer; owner builds.

D. C., Washington—W. C. & A. N. Miller, 1117 17th St., N. W., have permit for brick dwelling, 2818 44th St., N. W., and stone

dwelling, 4929 Rockwood Pkwy.; 3 stories; total \$35,000; owners build.

D. C., Washington—L. E. Breuninger & Sons, Investment Bldg., have permit for 3 dwellings, 7609 Morningside and 1320-24 Jonquil St., N. W.; 2½ stories, brick; total \$27,000; plans and constr. by owner.

Fla., Coral Gables, Miami—Deigaard & Preston, 2975 S. W. Eighth St., Miami, erect \$10,000 dwelling and garage, 924 Castile Ave.; rein. conc., conc. block and stucco, tile and wood floors, tile and comp. roof; Paist & Stewart, Archts., 834 Ingraham Bldg., Miami; Deigaard Builders, Inc., Contrs.

Fla., Jacksonville—Charles P. Mann, Pres., Squeeze Easy, Inc., has broken ground for \$10,000 residence, Landon Ave., Shadyside; A. N. Burkholder, Contr.

Fla., Jacksonville—B. N. Inman, 665 Rialto Place, S. Jacksonville, erect 3 dwellings, Shadyside; A. N. Burkholder, Contr.

Fla., Jacksonville Beach—J. A. Morrison erect residence; Marsh & Saxelbye, Archts., Consolidated Bldg.; P. S. Clarkson, Contr., 1610 Mallory St., both Jacksonville.

Fla., Miami—R. J. Schneider, Archt., 64 N. E. 52nd Terrace, reported, drawing plans for several bungalows; constr. under supervision of C. J. Tallman, 2847 S. W. 33rd Ave.

Fla., Miami—James I. Barnes, Logansport, Ind., erect \$12,000 to \$15,000 residence, Point View; conc. block, stucco and rein. conc., 2 stories, tile and oak floors, tile roof; Geo. Bruce, Archt., 315 Meyer-Kiser Bldg., Miami; owner builds by labor; plans about ready. 2-26

Ga., Atlanta—T. R. Garlington, care Adams Cates Co., Grant Bldg., erect \$10,000 residence, Andrews Drive; brick veneer, 2 stories and basement, 3 baths, conc. foundations, hardwood and tile floors, slate roof, steam heat; Ivey & Crook, Archts., Candler Bldg.; Williams Construction Co., Contr., Red Rock Bldg.

Ga., Atlanta—W. A. Beaumont, 2513 Peachtree Rd., let contract to S. W. Sullivan, 2513 Peachtree Rd., for \$15,000 brick veneer residence, Manor Ridge Drive; 2 stories and basement, hardwood and tile floors, slate or comp. shingle roof, steam heat, 2 baths, lavatory, conc. foundation; J. M. Russell, Archt., Standard Bldg.

Ga., Atlanta—Harry Callaway, care Callaway Mills, Rhodes Haverly Bldg., let contract to Norris Construction Co., 161 Spring St., N. W., for brick residence, Woodward Way, Peachtree Heights; 1 story and basement, hardwood floors, tile baths, comp. slate or tile roof. 1-29

Ga., Atlanta—W. W. Lyngar, 301 Tenth St., N. E., let contract to Ben H. Burgess, 1230 Gordon St., S. W., for residence, Brookwood Hills; brick veneer, 2 stories and basement, hardwood and tile floors, slate roof, steam heat; J. C. LeBey, Archt., 101 Marietta Bldg. 3-5

Ga., Atlanta—Dr. H. D. Landrum, 326 Inman St., S. W., erect brick veneer residence, 1594 Beecher St., S. W.; hardwood floors, comp. roof, hot air heat; owner builds.

La., New Orleans—Mrs. V. LiRocchi erect single residence, 3832 Gentilly Ave.; orna. iron; Geo. J. Lupo, Contr., 2231 Milan St.

La., New Orleans—E. & E. J. Dreyfus, 2735 Soniat St., erect 2 duplexes, 2725-31 Soniat; asbestos or tile roofs, sheet metal and tile work, orna. iron, rein. steel.

La., New Orleans—S. P. Lafaye erect 1-story and basement brick veneer residence, Canal Blvd. and Kenilworth St.; \$10,000; E. L. Markel, Contr., 3838 Louisiana Ave. Pkwy.

La., New Orleans—B. C. Johnson, Contr., 2524 Sage St., erect double dwelling and 2 garages, 2518-10 Sage; asbestos roofs, sheet metal work.

Md., Baltimore—Cottage Realty Co., Benj. R. Sale, 3201 Clearview Ave., erect 3 frame

dwellings, 5200-04 Pembroke Ave.; 1½ stories, 20x20 ft., hot water heat; total \$10,000; owner builds.

Md., Baltimore—Frank Macey, Bldr., 5001 Midwood Ave., erect 2½-story frame dwelling, St. Dunstan's Rd.; Machen & Dixon, Archts., 312 N. Charles St.; work start about April 1.

Md., Baltimore—Potomac Development Co., 1311 Munsey Bldg., started work on 17 brick dwellings, 5107-35 Harford Rd. and 3001-03 Batavia Ave.; 2 stories, 19x34 ft., hardwood floors, stone foundations, built-up asphalt roofs; total \$50,000; furnishings, equipment, etc., \$15,000; plans and constr. by owner. 3-5

Md., Baltimore—J. Hurst Purnell, Bldr., 4314 St. Paul St., has permit for \$25,000 brick dwelling, 4409 Keswick Rd.

Md., Baltimore—Clearview Development Corp., 4713 Charlton Ave., erect 3 frame and conc. block dwellings, 7401-05 Glenoak Ave.; 2 stories, \$22x30 ft., hot water heat; E. W. Powers, Archt.; owner builds.

Mo., St. Louis—Koch & Hauptfleisch, 5535 Grace St., erect \$10,000 brick dwelling, 5877 Delor St.; 2 stories, 27x39 ft., slate roof, hot water heat; owners build.

Mo., St. Louis—A. H. Meyer, 3445 Osage St., erect \$18,000 residence, 3909 Kingshighway, S. W.; brick, 2 stories, 41x45 ft., slate roof, hot water heat, garage; F. G. Avis, Archt., 1021 Big Bend Rd.; Mississippi Valley Construction Co., Contr., 821 Wainwright Bldg.

Mo., St. Louis—Ben Goldberg, 7124 Cambridge St., erect 2 brick dwellings, 1244-52 Sells St.; 1 story, 29x33 ft., asphalt shingle roofs, steam heat; total \$10,000; Russell A. conzelman, Archt., 313 Calumet Bldg.; owner builds.

Mo., St. Louis—McPherson Avenue Development Co. erect 5 brick dwellings, 6329-45 Woodland St.; 1 story, 25x41 ft., comp. shingle roofs, hot air heat; total \$20,000; M. D. Garrison, Archt.; Garrison Bradley Construction Co., Contr., all 712 Chestnut St.

Mo., St. Louis—K. W. Moss, Overland, Mo., erect \$11,000 brick residence, Overland View subdivision; 2 stories, 32x35.6 ft.; W. H. Turner, Archt.-Contr., 2307 Wallis St., Overland.

Mo., University City, St. Louis—Perry Topping, Jr., 5286a Waterman St., erect brick residence, Maryland Ave. near Jackson Ave.; 2 stories and basement, 35x30 ft., slate roof, hardwood floors, tile bath, copper sheet metal work, slate roof, stone trim, hot water heat; Chas. R. Greene, Archt., 618 Wainwright Bldg.; H. M. Edmunds, Contr., 238 Woodbine Ave.

Tex., Galveston—Rose Maceo, 1721 L St., erecting 2 dwellings, 31st and S Sts.; brick veneer; total \$13,500; Johnson Bros., Contrs., Guaranty Bldg.

Tex., Lockhart—R. F. Leyendecker let contract to W. C. Eeds, Lockhart, for brick veneer and rein. conc. residence; 1 story, about 39x43 ft., tile and wood floors, asbestos shingle roof; Jeremiah Schmidt, Archt., New Braunfels. 12-11

Va., Big Stone Gap—Dr. Samuel B. Nickels, Box 105, let contract at \$10,000 to John Mullens, Big Stone Gap, for brick veneer bungalow; 1½ stories, 32x40 ft., select oak floors, conc. foundation, elect. refrigerators, comp. asphalt shingle hip roof; plans by Stone Lumber Co., Bristol, Tenn.

Va., Richmond—E. J. Keegan, Real Estate Exch. Bldg., erect residence.

Government and State

D. C., Washington—Architect of The Capitol, David Lynn, let contract at about \$82,000 to G. B. Mullin Co., Inc., 1296 Upshur St., N. W., Washington, for excavation and foundations for \$8,240,000 U. S. Supreme Court bldg.; plans by Cass Gilbert, Archt., 244 Madison Ave., New York. 3-5

Fla., Kissimmee—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$51,491 to Samford Bros., Inc., 301 Washington Ave., Montgomery, Ala., for post office. 2-26

Ky., Madisonville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$58,700 to James I. Barnes, Logansport, Ind., for post office. 2-19

La., Baton Rouge—Newman Manufacturing Co., Cleneay St. and N. & W. Rwy. Cincinnati, O., has contract for bronze windows, doors and other bronze work for \$5,000,000 State Capitol; glass and glazing, E. W. Ulrich Glass Co., Inc., 827 Dryades St.; plastering, Moroney & Middleton, Canal Bank Bldg.; struct. steel painting, Utley Paint Co., 1120 Gravier St., all New Orleans, La.; Weiss, Dreyfous & Seiferth, Archts., Maison Blanche Bldg., New Orleans; Geo. A. Fuller Co., Contr., Munsey Bldg., Washington, D. C. 3-5

Md., Baltimore—Junction Realty Co., Has-kill Feldman, 3922 Dalrymple Ave., erect bldg., 5119 Roland Ave., to be leased to Government for Roland Park Station (post office); brick, 1-story, 48x96 ft.; Edwin H. Browne, Archt., 1018 Fidelity Bldg. 1-15

Okla., Bartlesville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$195,630 to W. R. Heath Construction Co., Greencastle, Ind., for post office, Faith and Johnstone Sts.

Tex., Palacios—Quartermaster Corps, Claude A. Adams, Lt.-Col., completed foundations for warehouse and magazine, Camp Hulen; former timber, latter conc. and hollow tile, 1 story, 160x36 ft. and 24x48 ft., wood and conc. floors, shingle and slate roofs; total \$10,000; Price Lumber Co., Contr.

Tex., Sugarland—A. H. Shafer, 829 N. St. Marys St., has high and low pressure piping contract at \$9961 for Central State Farm Bldgs., for State Bd. of Control, Austin; fire protection equipment and sprinkler system equipment, Crane Co., 1200 E. Houston St., at \$4750 and \$1350; elect. equipment, Martin Wright Electric Co., Navarro St., at \$17,058; refrigeration equipment, York Ice Machinery Corp., 307 N. Medina St., at \$11,900, all San Antonio; insulation, L. Mundet & Son, Inc., 2420 Nance St., Houston, at \$7680; Glesecke & Harris, Archts., Norwood Bldg., Austin; Dr. F. E. Glesecke, Consultant, College Station; Lloyd D. Royer, Consult. Mech. Engr., all Smith-Young Tower, San Antonio. 2-12

Hospitals, Sanitariums, Etc.

Md., Annapolis—Crownsville State Hospital let contract to Saml. Dove, 3 Acton Place, Annapolis, for dairy.

Md., Perry Point—Bryce Plumbing & Heating Co., Florence, S. C., has heating and plumbing contract for \$250,000 N. P. convalescent bldg., U. S. Veterans' Hospital, Perry Point, Md.; elevator, Otis Elevator Co., Washington, at \$5247; Adams Construction Co., Contr., Woodward Bldg., Washington, D. C., and 217 Jackson Court, Chicago, Ill. Address Contr. at Washington, See Want Section—Building Material and Equipment. 2-12

Miss., Greenville—Dr. O. M. and Dr. E. S. Norton erecting veterinary hospital, Hinds and Wright Sts.

Miss., Oxford—Mississippi Building Comsn., W. C. Trotter, Sec., University, Miss., let contract at \$81,525 to Dye & Mullins, Columbia, Miss., for rein. conc., brick and stone trim hospital, University of Mississippi; plumbing and heating, Alonzo B. Hayden, Inc., Pass Christian, Miss., at \$25,000; wiring, Thompson Electric Co., 63 S. Third St., Memphis, Tenn., at \$9710; 3 stories, 40x70-ft. central section and two 67x37-ft. wings, cement, wood and ceramic tile floors, mosaic tile work, hollow tile, monolithic floor finish, marble work, shingle tile roof, sheet metal work, kalamein doors; Bem Price, Archt., 1420 Comer Bldg., Birmingham, Ala. 2-12

Mo., St. Louis—Laclede Steel Co., Arcade Bldg., reported, has contract for 600 tons rein. steel for \$1,250,000 Firmin Desloge Memorial Hospital; Arthur J. Widmer & Associates, Inc., and Study & Farrar, associated architects. 2-26

Tenn., Memphis—Toll Electric Co., 1210 Booker St., Little Rock, Ark., has wiring contract for \$300,000 nurses' home and additions to main bldg., U. S. Veterans' Hospital; plumbing and heating, Frank P. Boyd, Columbus, Ind.; Algernon Blair, Gen. Contr., First Natl. Bank Bldg., Montgomery, Ala. 2-12

Tex., Midland—Dr. W. E. Ryan started work on 20-room first unit of hospital.

Hotels and Apartments

D. C., Washington—Cafritz Construction Co., 1404 K St., N. W., having plans prepared by A. L. Aubinoe, same address, for \$50,000, 2-story, brick, 5-apartment, West Virginia Ave., near Capitol Ave.; slag roof, oak floors, owner builder.

D. C., Washington—M. & H. Warren, Connecticut Ave. and Sedgwick St., soon ready for sub-bids on 5-story, 123x108 ft., rein. conc., brick and stone apartment, Rhode Island Ave., Second and Third Sts., N. E.; sluag roof, hardwood, tile and linoleum floors, 2 electric elevators, vapor heat; H. P. Baxter, Archt., 810 18th St.

Fla., Miami Beach—Benj. H. Kohl, Miami Show Case & Fixture Co., 1201 N. W. First Ave., Miami, started work on \$12,000, 2-story, rein. conc. conc. block and stucco, 4-unit apartment, Drexel Ave. between 15th and 16th Sts.; Robt. L. Weed, Archt., 2620 Biscayne Blvd., Miami; owner builds, day labor. 3-5

Fla., Miami Beach—Robert G. Jackson, care Wm. F. Brown, Archt., 651 Washington Ave., erect \$14,000, 2-story, rein. conc., conc. block, stucco, 4-apartment, Michigan Ave. between 15th and 16th Sts.; owner builds by day labor.

Ga., Atlanta—O. T. Hennessee, 936 Juniper St., N. E., erect \$20,000, 2-story and basement, brick, stone trim, 16-apartment, 936 Twelfth St., N. E.; tar and gravel roof, hardwood and tile floors, steam heat; owner builds by day labor.

Mo., St. Louis—Alco Investment Co., 808 Chestnut St., erect two tenements, 5215-21 Miami St.; also tenement, 5071-73 Miami St.; \$35,000; all 2 stories, 34x52 ft., brick, comp. or tile roof, hot air heat; Swan Supply Co., Bldr., 808 Chestnut St.; Oliver J. Popp, Archt., Arcade Bldg.

Mo., St. Louis—Richard C. Bradley, 5611 Enright St., erect \$10,000, 2-story, 27x46 ft., brick tenement, 6253 Loran St.; slate roof, hot water heat; Arthur R. Darr, Bldr., 3805 Kingshighway, S. W.

Tex., Corpus Christi—Mrs. Wm. Horne, owner of Horne Apartments in 700 block Chaparral St., started remodeling work; brick and cut stone, 100x138 ft.; Wood Sherman Construction Co., Contr., Furman Bldg.

Tex., Kilgore—W. L. Moody, 2028 D St., Galveston, started work on \$75,000, 2-story, stucco, 75-room hotel on Kilgore-Henderson highway; textone and sheetrock interior; Dee Humphrey, Contr., Burt Bldg., Dallas. 3-5

Tex., San Antonio—Caruthers Investment Co., 219 Hubbard St., erect 2-story, 64x54 ft., rock veneer, 6-apartment, 308 Rosewood St.; owner builds.

Va., Roanoke—J. C. Senter, 919 Maiden Lane, has contract, on cost plus basis, for rebuilding wing of Hotel Ponce de Leon, recently noted burned; 8 stories, brick, limestone, steel framework, conc. floors, 2 elevators, 4 stores on first floor; excavating; Frye & Stone, Archts., MacBain Bldg. 2-19

W. Va., Huntington—Warren M. Newman, Contr., 119 Park St., soon start work on \$20,000, 3-story, 40x85 ft., brick and steel apartment, 13th Ave. near 9th St.

Miscellaneous

D. C., Washington—National Assn. of Relief of Destitute Colored Women and Children, Inc., erect \$20,000, 2-story brick addition, 731-33 Euclid St.; slate and tin roof; Victor R. Daly, Archt., Prudential Bank Bldg.; owner builds. 3-5

N. C., Winston-Salem—Methodist Children's Home, O. V. Woolsey, Supt., let contract to Frank L. Blum & Co., 460 W. 4½ St., for boys' dormitory and gymnasium to be known as Duke Cottage; \$25,000, 2 stories; Northup & O'Brien, Archts., Reynolds Bldg. 2-19

Schools

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Engr., Dept., Dist. Bldg., let contract at \$418,873 to Arthur L. Smith & Co., 2539 Pennsylvania Ave., N. W., for Hugh M. Brown Jr. High School; 3 stories and basement, 193x140 ft., brick, conc. stone, hollow tile, slate and built-up roof, comp. tile floors, marble, tile, terrazzo; A. L. Harris, Municipal Archt., Dist. Bldg.

D. C., Washington—Dept. of Interior, John H. Edwards, Asst. Sec., Interior Bldg., let contract at \$27,700 to M. Cain Co., 3315 8th St. N. E., for excavation of science quadrangle at Howard University.

D. C., Washington—Following sub-contracts awarded on Northampton Street School (laying rubble stone) for which Chas. S. Barnett, Inc., 4700 Springfield Ave., Philadelphia, Pa., has general contract at \$103,390: Waterproofing (compound), District Foundation Co., Inc., 1427 I St., N. W.; waterproofing (membrane), Warren-Ehret Co., 2625 K St., N. W.; cut stone work, Walter S. Phelps Granite Co., 7th and Franklin Sts., N. E.; mise. iron work, Washington Stair & Ornamental Iron Works, 2014 5th St., N. E.; millwork, Millwork Sales Corp., 1334 11th St., S. E.; plaster work, Woodall & Woodall; bonding coat, Washington Ply-Rite Co., Hill Bldg.; tile, slate and terrazzo, Venetian Art Tile & Marble Co.; comp. floors, Sanitary Floors Corp., 3206 K St., N. W.; metal toilet enclosures, Lally-Rohlander Co., 1756 M St., N. W.; metal weatherstripping, Federal Weatherstripping & Screen Co.; plumbing, heating, ventilating, D. C. Engineering Co., Inc., 3710 14th St., N. W.; electrical work, George A. Ford Co., 3904 14th St., N. W., all Washington; rein. steel, Truscon Steel Co., Youngstown, Ohio; sheet metal work, roofing work, M. G. Kulzer, 3005 N. Marshall St.; struc. metal work, Henry A. Hittner's Sons Co., Inc., Gaul & Huntington Sts.; metal covered doors, Philadelphia Fire Retardant Co., Inc., 1321 Arch St.; painting, Andrews Painting Co., 2903 W. Dauphin St.; glass, Stott-Hecht Glass Works, 429 N. 6th St., all Philadelphia, Pa.; cork boards, Frank E. Pentz, Agent, Baltimore; austral hardware, Austral Window Co., 101 Park Ave.; wardrobes, Fairhurst Co., both New York; finishing hardware, not awarded; A. L. Harris, Municipal Archt. 2-12

Fla., Tampa—Sacred Heart Catholic Parish, Rev. T. A. Ray, S. J., started work on \$32,500, 2-story, 165x59 ft., 12-classroom school, with auditorium to seat 700 people; also erect \$12,500, 2-story, 10-bedroom residence for instructors; both buildings brick; W. I. Sultenfuss, Bldr., 803 James St.; Couch & Parslow, Archts., 1000 1/2 Florida St.

Fla., Winter Park—Rollins College, Hamilton Holt, Pres., let contract to Geo. W. Hessler, 111 W. Ashley St., Jacksonville, for \$200,000 Knowles Chapel; stucco, artificial stone trim, tile roof, Spanish type, one-story, 80x150 ft.; Cram & Ferguson, Archts., 248 Boylston St., Boston; Kiehnel & Elliott, Const. Archts., Seybold Bldg., Miami. 2-19

La., Monroe—Following sub-contracts awarded on \$300,000, 3-story, 287x130 ft., brick and rein. conc., 200-classroom Jr. High School for which Ashton Glassell Co., Inc., 260 Cadillac St., Shreveport, has general contract; Piling, Raymond Concrete Pile Co., Healey Bldg., struc. steel, Southern G-F Co., 263 Decatur St., S. E., both Atlanta, Ga.; Limestone, Indiana Limestone Co., Bedford, Ind.; rein. steel, Laclede Steel Co., Arcade Bldg., St. Louis, Mo.; struc. steel, Beaird Corp., St. Vincent Ave., Shreveport; metal decking and steel windows, Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit, Mich.; orna. and misc. iron, Price-Evans Foundry Co., Anderson Ave., Chattanooga, Tenn.; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg., Monroe. 2-26

Md., Baltimore—Bd. of Awards City Hall, let contract at \$108,898 to Charles L. Stockhausen Co., Inc., 33 S. Gay St., for 2-story and basement, 62x130 ft., brick school No. 113, Federal and Carter Sts.; Benj. Frank, Archt., 517 N. Charles St.; Henry Massart, Struc. Engr., 328 N. Charles St.; Jas. Posey, Mech. Engr., Baltimore Trust Bldg.; heating and ventilating, Wm. E. Wood Co., 18 N. Howard St.; plumbing, Harvey L. Black & Son, 25 W. Clay St.; electric work, Goldenberg Bros., 721 N. Gay St. 3-5

Md., Churchville—Harford County Bd. of Education, C. Milton Wright, Supt., let contract at \$40,500 to James H. Davis, Havre de and conc., 8-classroom school; John B. Hamme, Archt., 31 Market St., York, Pa. 2-26

Md., Union Bridge—School Bd. let contract to Allen F. Feeser, Taneytown, for brick school; B. E. Starr, Archt., 7 S. Second St., Harrisburg, Pa.

N. C., High Point—Following sub-contracts awarded on Junior High School (excavating) for which R. K. Stewart & Son, S. Hamilton St., High Point, have general contract at \$261,850: Mill work, exterior and interior face brick, Snow Lumber Co., 210 E. Commerce St.; roofing, S. O. Peebles, Archdale Road, both High Point; struc. steel, Salem Steel Co., Hargrave St., Winston-Salem; plastering, Hickman Plastering Co., 426 Church St., Greensboro; architectural terra cotta, Atlanta Terra Cotta Co., Glenn Bldg., Atlanta, Ga.; steel joints, Truscon Steel Co., Youngstown, Ohio; Harry Barton, Archt., Jefferson Bldg., Greensboro. 2-12

Tex., Dallas—Bd. of Education, N. R. Crozier, Supt., let contract at \$103,742 to Eckert-Burton Construction Co., Inc., Burt Bldg., for Robert E. Lee elementary school, Delmar and Vanderbilt Sts.; DeWitt & Washburn, Archts., Kirby Bldg. 3-5

Tex., Galveston—University of Texas, J. W. Calhoun, Comptroller, Austin, let contract at \$264,640 to J. E. Morgan & Co., 319 Texas St., El Paso, for 4-story, brick and rein. conc., stone laboratory addition at Medical College; electrical, Electric Construction Corp., 209 S. Pearl St., Dallas; plumbing and heating, \$62,352, Dixie Heating & Ventilating Co., 109 Fannin St., Houston; equipment, \$36,767, W. M. Welch Manufacturing Co., 1515 Sedgewick St., Chicago; Herbert M. Greene, LaRoche & Dahl, Archts., Construction Bldg., Dallas. 2-12

Tex., Hot Wells—Hot Wells Common School Dist. No. 25, care Chas. Hargrave, Pres., Medical Arts Bldg., let contract at \$11,400 to F. A. Nunneley, Builders Exchange Bldg., for one-story, brick and tile, 4-room unit of high school; Will N. Noonan Co., Archts., Builders Exchange Bldg., all San Antonio. 1-22

Va., Sweet Briar—Sweet Briar College started work on \$135,000, 180x90 ft., rein. conc., brick gymnasium; John P. Pettyjohn & Co., Contrs., 212 Eighth St., Lynchburg; Clark & Crowe, Krise Bldg., Lynchburg, and Cram & Ferguson, 248 Boylston St., Boston, Mass., Asso. Archts.; also erecting \$10,000 professional residence; brick veneer, slate roof; W. T. Jones, Contr., 212 10th St.; Willey & Wilson, Const. Engrs., Peoples Natl. Bank Bldg.; Clark & Crowe, Archts., all Lynchburg. 1-22

Stores

D. C., Washington—F. Caniberti started work on \$10,000 improvements to store, 318-24 Cedar St.; D. M. Martinson, Bldr., 1107 Connecticut Ave.

Ga., Atlanta—H. B. Burdett, 276 Auburn Ave., N. E., erect 2-story, brick store and dwelling, 316 Auburn Ave., N. E.; tar and gravel roof; day labor.

Ga., Augusta—Dr. W. H. Harrison, 122 Eighth St., let contract at \$26,200 to J. B. Mobley, Box 691, for alterations and additions to department store to be leased to Ruben's Dept. Store; 2 stories, 50x212 ft., cast stone, elevators, maple, rubber and tile floors, metal ceilings, tin roof, sprinklers; Willis Irvin, Archt., S. F. C. Bldg. 3-5

Ga., Atlanta—Richardson Properties, Hugh Richardson, Jr., 160 Peachtree St., started work on rebuilding store and loft building, 19-21-23 Broad St., recently damaged by fire; 4 stories, brick, comp. roof, wood floors, \$15,000; A. Ten Eyck Brown, Archt., A. Barili, Jr., Asso. Archt., both Forsyth Bldg.; owner builds by day labor. 3-5

La., Jennings—P. B. Manouvrier let contract to Krause & Mangan Lumber Co. for

2-story, 25x75 ft., brick store to be leased to Great Atlantic & Pacific Tea Co. 2-19

Md., Baltimore—Mrs. H. L. Bletzer let contract to Stonebrook Corp., 512 St. Paul St., for 2-story, 35x50 ft., brick store and apartment, 29th St. and Hillen Road.

Md., Baltimore—Phillip Kolker, 4236 Pimlico Road, let contract to Talles Construction Co., 4024 Bonner Road, for store, 4234 Pimlico Road.

Md., Baltimore—P. Small, 501 S. Broadway, let contract to N. Zeigler, 1526 N. Appleton St., for store in rear of 501 S. Broadway; brick.

Miss., Bay Springs—B. W. Johnson let contract at \$11,474 to Currie & Corley, Raleigh, for 2-story and basement, 35x69 ft., brick store. 2-19

Miss., Prentiss—W. D. McDaniel, Contr., started work on brick store building.

Warehouses

Md., Baltimore—Metal Package Corp. erect \$20,000, 45x174 ft., steel frame warehouse with metal sides, Wolfe and Lancaster Sts.; Curtis & Minck, Inc., Engrs.-Contrs., 11 Park Place, New York.

INDUSTRIAL NEWS

Deadening Machine Vibrations

L. Mundet & Son, Inc., New York, have appointed H. B. Villiers as head of their department of Natural Cork Insulation, recently created. As noise and vibration are closely related in the operation of machinery, it is claimed that elimination of vibration will also eliminate noise, and to accomplish these ends, the Mundet engineers recommend that the machine be supported on mats of natural cork of correct area and thickness so that the cork will be under the right amount of compression. The company manufactures high grade cork board and cork pipe covering for all cold insulation service, roofing, etc. Its product is known as Mundet "Jointite" cork board.

Controls Monighan Corporation

The Bucyrus-Erie Company, South Milwaukee, Wis., has acquired control of the Monighan Manufacturing Corporation, Chicago, manufacturers of Diesel and electric dragline excavators mounted on the patented Monighan walking device. The Monighan organization will continue as a separate company under its present management, with O. J. Martinson continuing as president. Its product will be handled exclusively by the sales organization of the Bucyrus-Erie Company and by its associate, Ruston-Bucyrus Ltd., Lincoln, England.

To Meet Demand for Lime

The Keystone Lime Works, Keystone, Ala., are installing a new crusher to increase capacity of the plant to 1000 barrels of lime daily and to maintain that production in order to meet normal demand for lime in that section. In addition to the crusher, the company is installing an elevator, storage bin and hoist derrick. The plant is on the Louisville & Nashville Railroad and production includes high calcium lime for the building and chemical trades.

New Trackson Distributor

The Trackson Co., Milwaukee, Wis., announces appointment of Bow-Potter Company, Inc., Buffalo, N. Y., as distributor for Trackson tractor equipment, handling the complete Trackson line of crawlers, shovels, hoists, cranes, bulldozers, etc., as well as a stock of repair and replacement parts.

January Earnings Increase

Gross earnings of the Engineers Public Service Company, New York, and constituent companies, amounted to \$4,606,625 for January, 1931, as compared with \$4,595,921 for the corresponding month in 1930. Net operating revenue for January of this year amounted to \$2,002,562 as against \$1,944,348 for January, 1930, while the balance for January of this year was \$1,434,167 as compared with \$1,400,656 for January of last year. Earnings on common stock for 12 months ended January 31, 1931, were at the rate of \$2.61, as compared with \$2.46 for the 12 months ended January 31, 1930.

Moore Dry Kiln for Mexico

Cia Maderera Nieto y Ortega, Mexican hardwood manufacturer with a plant near Mexico City, is installing a modern type Moore dry kiln for seasoning hardwood lumber for the trade. It is a product of the Moore Dry Kiln Company, Jacksonville, Fla., and it will be used also to dry Mexican pine and other wood which the company produces in small quantities.

Handles Second-Hand Machinery

Headed by F. W. Browning, the Manufacturers Machinery Co., Knoxville, Tenn., has organized a business to dispose of bankrupt and surplus stocks for ownerships, and to liquidate, salvage and dispose of private commercial and industrial properties, such as buildings and plants. R. B. Harkleroad is sales manager.

Supervisor of Coal Traffic

C. H. Hix, president of the Virginian Railway Company, Norfolk, announces the appointment of E. D. Hanes as supervisor of coal traffic with offices in the Terminal Building, Norfolk. S. M. Adsit, Norfolk, is traffic manager of the company.

Carborundum Calendar.—The Carborundum Company, Niagara Falls, N. Y., is issuing an attractive 1931 calendar of large dimensions. Products of the Carborundum Company include abrasive wheels—paper and cloth—sharpening stones and refractory products.

WANT SECTION

THE CLASSIFICATIONS IN THIS SECTION ARE:

Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Dump Wagons and Scrapers.—R. B. Stewart, 2112 Park Ave., Box 822, Fort Myers, Va.—Wants prices and data on crawler type dump wagons, new or used, and self-loading scrapers suitable for Caterpillar "Thirty" and "Sixty" tractor.

Lathe.—Tryon Toy-Makers and Wood-Carvers, Tryon, N. C.—Wants prices and data on automatic lathe for turning small articles, new or used.

W. M. Smith & Co. (Mchy. Dealer). Box 1709, Birmingham, Ala.—Wants prices and data on following:

- (1) Band Mill—6 ft.
- (2) Band Resaw—6 ft.

Southern Machinery & Supply Co., 316 Tallapoosa St., Montgomery, Ala.—Wants prices and data on following, all used, first class condition:

- (1) Cars (Dump)—5
- (2) Engines (Crude Oil)—40 to 50 h.p., Fairbanks-Morse, complete, semi-Diesel, including starting and running auxiliaries, requests location and condition; 60 h. p., Fairbanks-Morse, cold start
- (3) Locomotive—35 ton, saddle tank.
- (4) Motors (Electric)—100 h. p., 50 h. p., 25 h. p., 10 h. p., all 440 volts.

Starke Stave Mill, W. P. Smith, Starke, Fla., wants following, new or used:

- (1) Crozing Machine—for crozing pine staves, 36-in. long and ¾-in. to 1-in. thick
- (2) Stave Saw—Whitney, automatic cylinder, rosin barrel.

Flexible Shaft Equipment, etc.—J. A. Wisner, 2106 Allendale Rd., Baltimore, Md.—Wants complete data and prices on flexible shaft and protective tubing for the transmission of power, equipment to function in any position; also wants universal joints and complete mechanical accessories for such outfits; to be used on very light outfit, operated by high-speed electric motor.

Manufacturers Machinery Co., 408 W. Jackson Ave., Knoxville, Tenn.—Wants prices and data on following, used:

- (1) Hosiery Machine—45 or 50, Scott and Wilham, spiral H. H., 220 needle, No. 3½ cyl.
 - (2) Warp Machines—30, 220 needle, Banner.
- Henry T. Schmidt, R. R. No. 2, Jefferson City, Mo.,** wants prices on following in connection with water supply for greenhouse:
- (1) Deep Well Pump
 - (2) Pressure Tank.

Machinery Record, Mutual Bldg., Richmond, Va.—Wants prices and data on following:

- (1) Boilers—150 h. p., new or slightly used, bare return tubular, 125-lb. pressure, 72 in. x 18 ft., flush ends; 15 h. p., vertical, 100-lb. pressure; 50 to 75 h. p. "Economic" type, 125-lb. pressure. ASME code, or return tubular or Scotch
- (2) Boiler Tubes—25 4x18 in., used
- (3) Hoist (Steam)—8 h. p., single drum
- (4) Pump (Steam)—Worthington Duplex, 4-suction, 3-in. discharge
- (5) Motors—10 h. p., two 5 h. p., 3 h. p., all 1200 r. p. m., 3 phase, 220 volt. a. c.
- (6) Scales (Truck)—10 tons capacity or over.

Charcoal Producing Equipment.—McGowin-Foshee Lumber Co., Willow, Fla.—Wants prices and data on equipment for producing charcoal by rapid process.

Miscellaneous

Bottles (Glass), etc.—W. H. McAllister, Durham, N. C.—Wants prices and data on glass bottles and equipment for handling mineral water.

Concrete Moulds.—A. E. Kmetz, 403 Lemon St., Palatka, Fla.—Wants prices and data from manufacturers of steel forms or moulds for use in making novelties from cement.

Concrete Moulds.—J. H. Snider, Jr., 4 Chesley Ave., Jackson, Ala.—Wants prices and data on steel forms for making concrete burial vaults.

Home Furnishing Co., Clarksburg, W. Va.—Wants prices and data from manufacturers on following:

- (1) Clocks (Electric Chime)—street
- (2) Lawn Rollers.

Pump (Deep Well).—Spoon & Lewis, Consult. Engrs., Greensboro, N. C.—Want prices and data on slightly used late model deep well pump, capacity about 75 g. p. m. with about 350-ft. total lift.

Razors and Razor Blades.—J. B. Lowenberg, 31 Nusbaum Bldg., Norfolk, Va.—Wants to contract with firms in position to manufacture safety-razors and razor blades.

Sheet Steel (Nickel Plated).—Ford Roofing Co., Inc., 142 Home St., South Jacksonville, Fla.—Wants prices and data on sheet steel, nickel plated, polished on one side, 22 gauge, to be cut into small pieces.

Step Ladder Fittings.—Garland Lumber Co., Lakeland, Fla., making extension ladders—Wants prices and data from manufacturers of step ladder fittings in stock patterns.

Building Material and Equipment

J. B. Mobley, Contr., Box 691, Augusta, Ga., wants prices on following:

Sprinklers.
J. V. & R. T. Burkes, Inc., Contrs., 1112 Amer. Bk. Bldg., New Orleans, La., estimating on personnel quarters (all sub-contracts included in gen. contract), U. S. Marine Hospital, New Orleans, wants sub-bids until March 16.

J. V. & R. T. Burkes, Inc., Contrs., 1112 Amer. Bk. Bldg., New Orleans, La., estimating on \$500,000 Flint-Goodridge Hospital, New Orleans (all in gen. contract except elevators and elevator doors), want sub-bids until March 17; Moise H. Goldstein, Archt., Amer. Bk. Bldg., New Orleans.

The Wilson Company, Room 306, Natl. Bank and Trust Bldg., Charlottesville, Va., estimating on \$300,000, 3-story Clark Memorial Law Bldg., University of Virginia, and wants quotations on following by March 16:

- Brick
- Blackboards—slate
- Cast Stone
- Caulking
- Concrete Materials
- Cut Stone
- Doors and Frames—kalomein
- Elevator
- Electrical Work
- Flooring—composition, terrazzo
- Glazing
- Heating and Ventilating
- Iron—miscellaneous and ornamental
- Marble—interior and exterior
- Metal Lathing, Furring and Plastering
- Painting
- Plumbing
- Roofing
- Sheet Metal Work
- Steel—structural
- Toilet Partitions—slate
- Toilet Room Accessories
- Ventilators
- Weatherstripping.

Bids Asked

Air Compressor.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 17 for air compressor with 2 valve assemblies, delivery Quantico, Va.

Automobile.—U. S. Engr. Office, Huntington, W. Va.—Bids Mar. 20 for automobile for operation and care of Ohio River.

Band Saw.—See Miscellaneous Machinery and Tools.

Bench Saw.—See Miscellaneous Machinery and Tools.

Blasting Machine, etc.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 17 for blasting machine, etc., delivery to Quantico, Va.

Bridge.—Dallas, Tex. See Construction News—Bridges, Culverts and Viaducts.

Bridges.—State of Kentucky—Bids for 2 bridges. See Construction News—Roads, Streets and Paving.

Bridges.—State of Maryland—Bids for 2 bridge projects. See Construction News—Roads, Streets and Paving.

Bridge Repairs.—Washington, D. C. See Construction News—Bridges, Culverts and Viaducts.

Cable.—Commrs. Dist. of Columbia, Washington, D. C.—Bids March 16 for 18,151 ft. of lead covered, dry paper insulated composite telephone and signal cable.

Canvas and Cheesecloth.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 17 for 400 yd. cotton canvas and 2000 yd. bleached cheesecloth, delivery Quantico, Va.

Conveyor and Loader.—See Miscellaneous Machinery and Tools.

Dikes.—U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, Mo.—Bids Apr. 4 for about 1500 lin. ft. standard pile clump dikes, Missouri River, Contrary Bend, 2.8 mi. from South St. Joseph, Mo.

Disinfectants and Exterminators.—State Bd. of Control, Pur. Div., Austin, Tex.—Bids Mar. 25 for disinfectants and exterminators for balance of this fiscal year.

Dovetailing Machine.—See Miscellaneous Machinery and Tools.

Dragline Elevator.—U. S. Engr. Office, Second New Orleans Dist., foot of Prytania St., New Orleans, La.—Bids Apr. 4 for truck type dragline excavator.

Dump Units.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 20 on 2 dump units, delivery.

Gasoline, Kerosene and Fuel Oil.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 19 for gasoline, kerosene and fuel oil, fourth quarter, 1931, delivery Annapolis, Md., Philadelphia, Pa., Washington, D. C., and Parris Island (Port Royal), S. C.

Gasoline.—Pur. and Contracting Officer, Q. M. Corps, Ft. Eustis, Va.—Bids March 27 for 44,000 gal. gasoline, etc.

Gate Engines.—U. S. Engr. Office, Washington, D. C.—Bids Mar. 20 for spare gate engines for locks in Ohio River.

Glass.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 19 for 480 pieces window glass, delivery Quantico, Va.

Hearse (Automobile).—Commanding Officer, Washington Quartermaster Depot, Washington, D. C.—Bids Mar. 23 for automobile hearse.

Hoisting Engine.—U. S. Engr. Office, Huntington, W. Va.—Bids Mar. 18 for hoisting engine for Lock No. 2, Kanawha River.

Hydraulic Laboratory.—Purchase Section, Bureau of Standards, Washington, D. C.—Bids March 23 for construction of hydraulic laboratory building on grounds of the Bureau; plans, etc., on application to H. N. Eaton, Room 4, West Bldg.

Jig Saw.—See Miscellaneous Machinery and Tools.

Lathes.—See Miscellaneous Machinery and Tools.

Lathe (Engine).—See Miscellaneous Machinery and Tools.

Lawn Sprinkling System.—Office of Architect of Capital, Washington, D. C.—Bids Mar. 31 for furnishing and installing underground lawn sprinkling system within area of enlargement of U. S. Capitol grounds.

Lubricant.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 18 for 5000 lb. lubricant, delivery Sewall's Point, Va.

Machinery Parts.—U. S. Coast Guard Headquarters, Washington, D. C.—Bids March 28 for furnishing repair parts and accessories for machinery installed on Coast Guard patrol and picket boats as required, July 1, 1931, to June 30, 1932.

Marine Railway, etc.—Treasury Dept., U. S. Coast Guard, Washington, D. C.—Bids Mar. 18 for marine railway 231 ft. long, with hoist house and steel sheet pile bulkhead 160 ft. long, U. S. Coast Guard Depot, Curtis Bay, Baltimore, Md.

Mattresses, etc.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 23 for 1500 cotton felt mattresses, 100 lb. cotton linters, 1000 feather pillows and 10,000 yd. ticking, delivery Philadelphia, Pa.

Milling Machine.—See Miscellaneous Machinery and Tools.

Miscellaneous.—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Mar. 23 for following, Sch. 2637:

Garbage cans and covers, slate, copper wire, magnet wire, flexible steel conduit, cable terminals, receptacles, light sockets, sheet insulation, fish paper, bolts, rivets, etc.

Miscellaneous Machinery and Tools.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Mar. 24 for portable bucket and telescoping spout conveyor and loader, variety bench saw; Bids Mar. 31 for motor driven press drill and motor driven universal milling machine.

Miscellaneous Hardware.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 19 for miscellaneous hardware, delivery Philadelphia, Pa.

Miscellaneous Machinery and Tools.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Mar. 24 for motor driven multiple spindle dovetailing machine, motor driven single cylinder surfacer machine, pan and box brake, motor driven slip roll former, foot power operating squaring shears, automatic motor driven mortiser.

Miscellaneous Machinery and Tools.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Mar. 17 for motor driven rotary shear, motor driven screw machine, motor driven geared head engine lathe, motor driven band saw, motor driven timber sizer, jig saw complete with motor and starting equipment, motor driven metal cutting band saw, hydraulic press; bids Mar. 24 on motor driven lathes, motor driven cut-off saw, motor driven band saw, motor driven ripping straightedge saw, motor driven single ending tenoning machine.

Miscellaneous.—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids March 27 for following, Sch. 2636:

Fire inflating machines, corrugated galv. roofing, c. i. kitchen sinks, garbage cans, hickory hammer handles, white enamel, white lead, asphalt varnish, caustic soda, paint containers, etc.

Miscellaneous Supplies.—Pur. Agt., P. O. Dept., Washington, D. C.—Bids March 31 for annual supplies during fiscal year 1932; Sch. 2, including rubber and metal stamps and supplies; numbering machine supplies; metal seals; scales; waste receptacles; twine, etc.

Mortiser.—See Miscellaneous Machinery and Tools.

Motor Trucks, etc.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Mar. 17 for furnishing motor truck and wood tubs, to naval powder factory, Indian Head, Md.

Oils and Greases.—Commanding Officer, Washington Quartermaster Depot, 20th and C Sts., N. W., Washington, D. C.—Bids Mar. 19 for oils and greases.

Oxygen and Acetylene Gas.—U. S. Engr. Office, Huntington, W. Va.—Bids Mar. 16 for oxygen and acetylene gas for period beginning with date of contract and ending Dec. 31, 1931.

Paint.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 16 for 400 gal. paint (chrome green), delivery Quantico, Va.

Paris Green.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 19 for 4000 lb. paris green, delivery Quantico, Va.

Pipe and Fittings.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 16 for 120 ft. water pipe, 18 elbows and 18 valves (gate), delivery Quantico, Va.

Pontons.—U. S. Engr. Office, McCall Bldg., Memphis, Tenn.—Bids Mar. 20 for 10 steel pontons.

Press (Hydraulic).—See Miscellaneous Machinery and Tools.

Press Drill.—See Miscellaneous Machinery and Tools.

Regulators, etc.—Purchasing and Contracting Officer, Q. M. Corp., Langley Field, Hampton, Va.—Bids March 16 for 55 temperature regulators and 55 steam traps, etc.

Roads.—State of Kentucky—Bids for 15 roads. See Construction News—Roads, Streets and Paving.

Roads.—State of Maryland—Bids for 3 roads. See Construction News—Roads, Streets and Paving.

Rotary Shear.—See Miscellaneous Machinery and Tools.

Saw (Cut-off).—See Miscellaneous Machinery and Tools.

Screw Machine.—See Miscellaneous Machinery and Tools.

Sewer Construction.—City of Salisbury, Md., Francis H. Dryden, City Engr.—Bids March 16 for sanitary sewers and appurtenances under contracts 204-S, 208-S and 209-S, all pipe to be furnished by city; 1600 ft. of 12-in., 6175 ft. of 10-in., 3425 ft. of 8-in., 2800 ft. of 6-in. sanitary sewers.

Shades (Porch).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 17 for 150 porch shades, ventilating, wood split, delivery Quantico, Va.

Shirting (Khaki).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 30 for 200,000 yd. khaki shirting.

Shoes (Horse and Mule).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 28 for 9600 lb. horseshoes and 4700 lb. mule shoes.

Signal Generators.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Mar. 17 for signal generators, Navy Yard, Washington.

Slip Roll Former.—See Miscellaneous Machinery and Tools.

Squaring Shear.—See Miscellaneous Machinery and Tools.

Steel Bars.—Comms. Dist. of Columbia, Washington, D. C.—Bids March 16 for rein. steel bars.

Stationery, etc.—Pur. Agt., P. O. Dept., Washington, D. C.—Bids March 31 for annual supplies during fiscal year 1932; Sch. No. 1, including paper and paper articles, ink, mucilage, pens, pencils, etc.

Street Building Materials.—Bd. of Awards, Office of City Register, Baltimore, Md.—Bids Mar. 18 for furnishing stone, gravel, sand, blast furnace slag and cinders, street material contract for Highway Bureau for remainder of 1931.

Street.—Baltimore, Md. See Construction News—Roads, Streets and Paving.

Streets.—Dallas, Tex. See Construction News—Roads, Streets and Paving.

Streets.—Richmond, Va. See Construction News—Roads, Streets and Paving.

Surfacer Machine.—See Miscellaneous Machinery and Tools.

Suiting (Khaki).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 30 for 300,000 yd. khaki suiting, delivery Philadelphia, Pa.

Tenoning Machine.—See Miscellaneous Machinery and Tools.

Timber (White Oak).—U. S. Engr. Office, Huntington, W. Va.—Bids Mar. 17 for white oak timber for repairs to locks 3 and 6, Kanawha River.

Timber Sizer.—See Miscellaneous Machinery and Tools.

Tractor, Trailers and Scraper.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 19 for tractor and crane, 4 trailers and scraper, delivery Quantico, Va.

Trestle, etc.—U. S. Engr. Office, First New Orleans Dist., Poland and Dauphine Sts., New Orleans, La.—Bids Apr. 7 for clearing site, constructing sheet pile cofferdam, excavation, driving piling, sheet pile cut-off walls, conc. lock walls and floors, including rein. steel, temporary open deck timber pile trestle under tracks of railroad, etc., in connection with lock to be constructed in Mississippi River, Harvey, La.

Water Pitchers (Aluminum).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 17 for 200 aluminum water pitchers, delivery Quantico, Va.

Walks.—Office of Architect of Capital, Washington, D. C.—Bids Mar. 25 for constructing walks on site for enlargement of U. S. Capitol grounds.

Trade Literature

Power Drag Scrapers.—Sauerman Bros., Inc., Chicago, engineers and manufacturers of cableway excavators and power scrapers, have issued catalog No. 14, illustrating and describing in detail Sauerman power drag scraper equipment and presenting operating data to show how this equipment may reduce costs on all classes of earth-handling work. Scrapers are illustrated in sizes up to 12 cubic yards and, with Crescent buckets, are shown in special designs for special tasks. A section of the catalog is devoted to tower machines.

Wheeling, West Virginia.—The Chamber of Commerce of Wheeling, W. Va., has issued a booklet entitled "Know What Wheeling Has For You," which details some of the history of that industrial center and deals briefly with its coal, oil and gas, steel, tobacco, glass, clay and power industries, rail and river facilities, banks, marts, hotels, theaters, clubs, schools, churches, public buildings and water supply. The booklet is attractively illustrated.

Maryland's Economic Structure.—The Maryland Development Bureau of the Baltimore Association of Commerce has issued a booklet presenting a "Brief Analysis of Basic Factors in the Economic Structure of Maryland." Materials from which it was prepared include records of the Bureau of the Census, the Department of Agriculture and other divisions of the Federal Government; records of departments of the Maryland State Government and reports of other agencies.

Steel Price Extras.—The Daily Metal Trade published by the Penton Publishing Company, Cleveland, Ohio, has issued the second edition of a handbook on standard steel price extras. The more commonly used tables of differentials and price extras applying to iron and steel are employed, giving the buyer and seller of these products in a compact, convenient form information formerly only available, it is said, in a limited way.

Leaning Wheel Grader.—The Caterpillar Tractor Company, Peoria, Ill., has issued a catalog devoted to the Caterpillar Sixty Leaning Wheel Grader. The machine has been developed to meet a growing need for a unit of the widest practical blade range that will do virtually all work required of grader blades, plus operations that sometimes require special tools.

Westinghouse Instruments.—The Westinghouse Electric and Manufacturing Company, Newark, N. J., has issued catalog 211 devoted to instruments, relays and electronic devices, including photo-electric tubes, gridglow tubes, light relays and other devices for modern industrial application. Other equipment covered by the catalog includes a variety of recording and indicating devices.

Builders' Hardware.—The P. & F. Corbin division of the American Hardware Corporation, New Britain, Conn., has issued a catalogue devoted to a new assortment of builders' hardware of the hand wrought type. The company manufactures hardware for all modern type buildings and offers it to dealers in comprehensive lines.

Soviet Cotton Competition

By HENRY D. BAKER, Former American Commercial Attache to Russia.

The cotton growers of the South may well have occasion for alarm in the present indications that Soviet Russia with its forced labor, the efficiency of which becomes multiplied by American tractors, plows and irrigating machinery, will soon not only cease to buy any American cotton at all, but compete with the American industry by dumping low priced cotton on the markets of the world.

There are obviously signs of trouble ahead in the falling barometer of our exports of cotton to Russia. Since the commencement of the five-year plan our exports to that country have sharply dropped as follows:

	Bales	Values
1928	429,393	\$44,536,918
1929	289,161	29,492,530
1930	80,545	7,749,616

Another year of such decline will not only extinguish altogether our cotton exports to Russia, which formerly made a big contribution to the prosperity of the South, but it may put the South in a red balance by reason of damage done by red dumpings on world cotton markets.

Since the inception of the five-year plan, Russia has not only rapidly curtailed its purchases of American cotton, but to its cash savings on cotton it has added the proceeds of manganese, coal, lumber and a great variety of other merchandise that it has dumped on this country during the same period, thus accumulating gold credits for buying the tractors it wants for growing both more cotton and more wheat. Every shipment to this country of its manganese, coal, lumber or other merchandise, cracks prices and dislodges American labor from employment. And every ton of what it thus dumps helps to raise the cash for more tractors to raise more cotton and wheat and further depress the prices of those staple commodities.

Soviet Russia is already exporting cotton textiles to Europe, even to the great milling city of Manchester, notwithstanding that its own people are in rags. By limiting down the materials for clothing for its own people to a mere rag status, the Soviet dictatorship can save such materials to dump on world markets.

Southern Textile Exhibits

The date for the tenth Southern Textile Exposition at Greenville, S. C., has been definitely confirmed for October 17 to 22, 1932. Practically three-fourths of all the available space has been applied

for, and allotments probably will be made this summer. There will be large exhibits of spinning and other major operations, and improvements in lines of textile machinery.

Farm Waterworks

There are electric water systems to fit every kind of water supply on the farm, according to R. L. Holman, who discusses the subject in the March issue of the Dixie Poultry Journal. Wherever electric current is available, says Mr. Holman, water supply may be secured to good advantage from an adequate well, and thus the time-honored method of securing water from a running stream may be disregarded. The cost of an electric water system varies according to the source of the water. For a shallow well or spring, it is said a system can be installed for as low as \$75 plus the cost of the piping to put the water where desired. Deep well systems cost perhaps \$150, capacity of the pumps varying from 150 gallons to 800 gallons an hour. Operation of the system is automatic. The essentials are: Pump, an air pressure tank, a motor, and a line of pipe to carry the water wherever needed. The pump is placed over the well and is operated by the motor which pumps the water into an air-pressure tank. Flowing into the tank, the water compresses the air and this air compression provides the necessary force to send water through the pipes. Mr. Holman contends that when such a system is completely installed it provides all the conveniences of running water as in any city home.

If the farm is already connected to a public service power line the owner is put to the expense of a waterworks system only. If power is not available, it is said that a complete independent lighting system can be installed at a cost of \$300 up, and that from this independent system a water supply can readily and economically be developed, as here briefly outlined.

New Preserving Method

Discovery of a process to prevent the fermentation of fruit and vegetables frozen for storage has been announced by the British Department of Scientific and Industrial Research according to the Department of Commerce. Boiling, it has been found, destroys the enzymes completely and permanently. The vegetables may then be frozen and stored in suitable containers, either under a liquid covering or exposed to air. The experiments have been carried out at the Low Temperature Research Station, London, of which Sir William Hardy is superintendent, in cooperation with Cambridge University.

TO AID \$6,000,000 PEARL-BUTTON INDUSTRY

Tennessee and Arkansas Leading Producing States

Plans to aid in rehabilitation of the pearl-button industry, which is dependent on the lowly river-mussel, are under way in the Commerce Department's Bureau of Fisheries, according to Commissioner Henry O'Malley, in commenting on a new publication dealing with the problems of mussel culture.

Mr. O'Malley states that this lowly bivalve in the past has supported something like a \$6,000,000 industry. During 1929, the latest year for which figures are available, 20,205,073 gross of buttons valued at \$5,800,000 were produced from the shells. In addition to buttons, there were produced pearls, poultry food, lime or dust, cist shells, stucco and miscellaneous products. Tennessee led in total production, followed by Arkansas, Michigan, Iowa, Indiana and Illinois. These six states produced 75 per cent of the total quantity of shells; 13 additional states produced the remaining 25 per cent. At the present time the obstacles to the mussel-button industry are over-fishing, pollution and excessive silting resulting from deforestation.

Florida Engineering Society

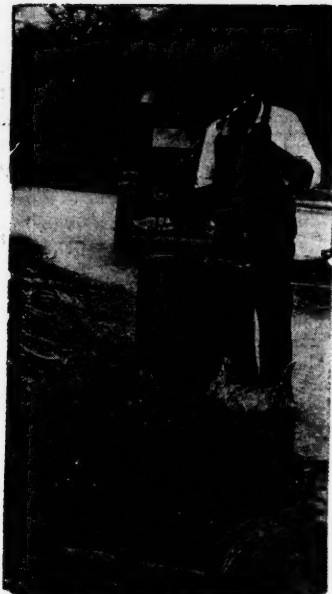
The fifteenth annual meeting of the Florida Engineering Society will be held at Hotel El Verano, West Palm Beach, Fla., March 26, 27 and 28. The Florida section of the American Society of Mechanical Engineers, the Florida Electrical Engineers and the Florida State Board of Engineering Examiners will hold meetings on the same dates and at the same place in conjunction with the sessions of the Florida Engineering Society, but not conflicting with them. Officers of the Florida Engineering Society include Peter Kendrick, president, St. Augustine; P. L. Reed and C. C. Brown, vice-presidents, Gainesville; W. W. Fineren, secretary, Gainesville, and H. D. Mendenhall, treasurer, Lakeland. J. M. Boyd is chairman of the local committee on arrangements for entertainment.

5,223,000 Cubic Yards of Levees

Memphis, Tenn.—Bids will be opened April 3 by Lieut.-Col. F. B. Wilby, U. S. District Engineer, Memphis, to construct about 5,223,000 cubic yards of earthwork, to include 247,000 cubic yards in the Upper St. Francis levee district; 3,466,000 cubic yards in Upper Yazoo district, and 1,510,000 cubic yards in the White River levee district.

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Of the many "sound reasons,"—the most important one is the long and satisfactory experience of many users, which has proven that "Leadite joints are good joints," and improve with age.

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LEADITE helps to complete the job in "quicker time,"—and actually "saves" money from every angle of pipe laying.

Most anyone can make a LEADITE joint,—because LEADITE is very easy to handle,—just yarn the joint,—pour it full of molten LEADITE and the joint is finished.

LEADITE resists electrolysis, and does not corrode or rust.

Further,—LEADITE has been successfully tested and used under various conditions,—for more than 30 years. In fact—

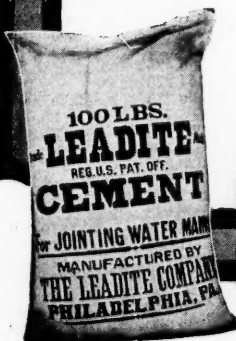
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\$40,000,000 BOND ELECTION**Kansas City and Jackson County Plan
10-Year Improvement Program**

Kansas City, Mo.—Kansas City and Jackson County vote May 12 on bonds in excess of \$40,000,000 to carry out a 10-year development program, for which details have been worked out by the executive committee headed by Conrad H. Mann as general chairman. The city's program of improvements, estimated to cost \$32,000,000, with the sums to be voted on for individual items, include the following: City hall and site, \$4,000,000; parks and playgrounds, \$2,750,000; public hospitals, \$2,000,000; new city market, \$500,000; stadium and outdoor theater, \$750,000; fire department, \$375,000; new district police stations, \$125,000; trafficways and boulevards, \$8,300,000; Blue Valley flood protection and improvements, including acquisition of land for roadways and for park purposes, \$1,000,000; water improvements, \$3,500,000; municipal auditorium, including site, \$4,500,000; sewers, \$1,500,000; Brush Creek sewer, \$2,000,000; Airport improvements, \$500,000; safety zones, \$200,000. Jackson County will vote on bonds in the sum of \$8,450,000, including \$4,000,000 for a new courthouse in Kansas City; \$200,000 to remodel the courthouse at Independence, Mo.; \$250,000 for a new detention home; \$3,500,000 for county roads, and \$500,000 for parks.

Grouping Utilities Properties

Louisville, Ky.—The grouping of all properties of the Kentucky Utilities Company, Lexington Utilities Company, Kentucky Power & Light Company and the Old Dominion Power under four major operating divisions for management purposes, as recently announced by L. B. Herrington, president of the companies, will involve the Blue Grass Division with headquarters at Lexington; Mountain Division with headquarters at Pineville; Western Division with headquarters at Paducah, and the Central Division with headquarters at Elizabethtown. R. M. Watt, for 17 years manager of the mountain district, was appointed executive vice-president of the Kentucky Utilities Company, with offices in Louisville.

The Blue Grass Division, embracing 111 communities and serving more than 50,000 customers, will have as its manager J. P. Pope, vice-president of the Lexington Utilities Company, while the Mountain Division, embracing practically the same territory as the old mountain district, will cover Lee and Wise counties in Virginia, served by the Old Dominion Power Company. The latter dis-

trict embraces 85 communities with 15,350 customers and will be in charge of J. H. Bailey, former district engineer at Pineville. L. P. Hite, former Paducah district manager, will be the manager of the Western Division, which includes 79 communities and serves 27,625 customers, and C. B. Hanna, former Lebanon district manager, will be in charge of the newly-organized Central Division which includes 79 communities and 12,500 customers.

No outstanding improvement projects are involved in the 1931 budgets of the companies, although improvements and replacements will be made during the year and the transmission systems extended to serve new customers.

\$700,000 Officers' Quarters

Fort Benning, Ga.—Bids will be opened March 31 by Capt. W. M. Allison, Constructing Quartermaster, for construction of 5 field officers' quarters and 51 company officers' quarters, estimated to cost more than \$700,000.

University Building Program

Charlottesville, Va.—In the prosecution of its building program at present under way, which will involve a cost of approximately \$1,000,000, the University of Virginia expects to complete in July a \$218,000 nurses' home and has begun the construction of a \$105,000 chemical laboratory. The Johnson Construction Co., Norfolk, is handling general contract for the former and C. M. Guest & Sons, Anderson, S. C., for the latter. Plans and specifications for both buildings were prepared by the university's architectural commission, of which John K. Peebles of Norfolk is chairman. The commission has also prepared plans for a \$350,000 law building for which construction bids are to be opened March 17, and expects to complete plans about July 1 for a new engineering building to cost approximately \$300,000.

\$1,000,000 Grain Elevator

Kansas City, Mo.—General contract to erect the superstructure of the new \$1,000,000 grain elevator here for the Missouri Pacific Railroad Co., E. A. Hadley, chief engineer, St. Louis, has been awarded to the S. Patti Construction Co., Kansas City. Excavation for the elevator and grading for tracks were handled by the Winston Bros. Co., St. Louis, while pile foundations were built by Bilhorn, Bower & Peters, Inc., also of St. Louis, and concrete foundations by the List & Weatherly Construction Co., Kansas City. T. M. Tucker, St. Louis, is the railroad architect. The elevator will have a capacity of 2,500,000 bushels and will be operated by the Continental Export Company, St. Louis, as lessee.

\$400,000 Theater Planned

Amarillo, Tex.—Construction will be started at once on a \$400,000 theater to be erected here by J. N. Beasley, J. Ray, U. N. Oliver and Ed Roberts, for the use of the Paramount-Publix Corporation, New York. The building will be 180 by 140 feet, with a seating capacity of 1400 on the main floor and 400 in the balcony.

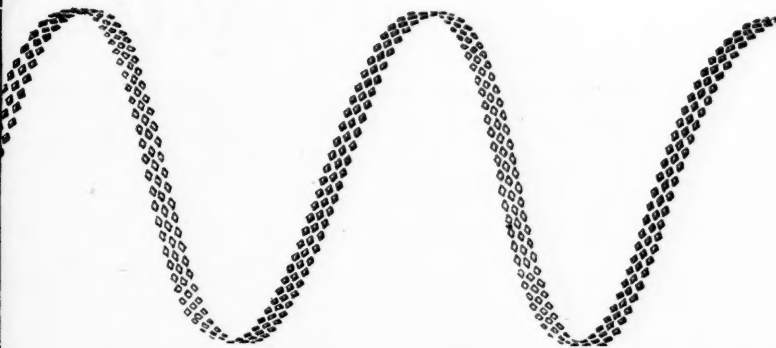
Explosives Industry in 1930

Manufacture and sales of explosives in the United States in 1930 are reported by the Bureau of Mines as follows: Black blasting powder, granular, 2,525,542 kegs, and pellet, 1,469,395 kegs; high explosives other than permissible, 291,390,927 pounds; permissible explosives, 53,826,146 pounds. The Southern States show 657,601 kegs. of granular black powder, or 26 per cent of the total; 586,167 kegs of pellet, or 40 per cent; 73,199,046 pounds of non-permissible explosives, or 25 per cent, and 16,299,344 pounds of permissible, or 30 per cent. Both national and Southern figures show a decrease from 1929. Alaska is included in the national totals.

EXPLOSIVES IN THE SOUTH, 1930

States	Black Blasting Powder		High Explosives Other Than Permissible	Permissible Explosives
	Granular	Pellet		
Alabama	43,448	15,403	6,367,825	2,963,100
Arkansas	44,813	7,336	2,839,254	105,440
Florida	8,078	2	2,055,425	50
Georgia	12,338	8	1,244,275	100
Kentucky	123,349	205,658	5,300,235	2,357,900
Louisiana	117	.....	3,603,768	25,600
*Maryland	17,675	2,364	1,259,175	225,800
Mississippi	983	.....	1,830,184	.....
Missouri	98,603	16,801	11,529,536	102,025
North Carolina	4,150	10	1,993,658	4,050
Oklahoma	53,711	5,093	7,281,005	245,900
South Carolina	3,551	.....	906,218	.....
Tennessee	60,186	30,638	4,883,825	179,000
Texas	47,408	4	9,467,523	72,500
Virginia	22,266	42,080	5,123,700	812,300
West Virginia	116,925	200,770	7,353,440	9,205,575
Total	657,601	586,167	73,199,046	16,299,344
United States	2,525,542	1,469,395	291,390,927	53,826,146

*Includes District of Columbia; amounts not specified.



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Unfailing supplies of clear, sparkling water, unclogged heating lines, and freedom from repairs at low cost are made possible by metal tested for 83 years.

For 83 years Reading has been assuring clean water, unclogged pipe lines, and freedom from repairs for many, many years, by making pipe of genuine puddled wrought iron.

In modest home, in mansion, in factories and buildings, large and small, on locomotives, railroad cars and ships, under water, under ground, on the surface, between walls and floors, this pipe has been given all the terrible tests of service in every conceivable way for over four generations.

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It had to be marked because many people had become careless in using the word "iron". For many years "iron" had popularly meant puddled wrought iron as Reading made it then and still makes it. Quickly-rusting materials were developed that look like "iron", and often are sold as an "iron". But, of course, they failed to give the service which only genuine puddled wrought iron gives.

That's why, if you want permanence, freedom from repairs, and unfailing flow of water, air, gas, oil, or other liquids, look for the honest spiral, mark of the pipe that has been tested for four generations.

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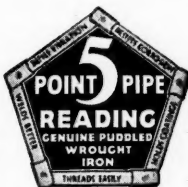
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For your protection this indented spiral for ever marks all Reading Pipe.

FINANCIAL NEWS

Bond Issues Proposed

Ala., Athens—Limestone County votes Mar. 30 on \$130,000, 5½% funding bonds.

Fla., Jacksonville—City probably vote in June on \$1,600,000 improvement bonds.

Ga., Waycross—City, Walter E. Lee, City Treas., voted \$175,000 general improvement bonds. 2-5

Ky., Newport—Bd. of Commrs. adopted ordinance providing for \$145,000 refunding bonds.

La., Amite—Tangipahoa Parish School Bd. votes Apr. 6 on \$25,000 junior high school bonds.

La., DeRidder—City, W. R. Middleton, Mayor, will vote on \$37,000 waterworks bonds.

La., Gretna—City may issue \$150,000 bonds to extend and complete municipal sewage system.

Md., Cambridge—Dorchester County will ask Legislature for permission to issue \$1,000,000 road bonds.

Md., Cumberland—City, Samuel Wertheimer, Commr. of Finance and Revenue, opens bids Mar. 16 for \$500,000, 4½%, \$1000 denom. water improvement bonds, first of \$900,000. 2-12

Md., Frederick—City, Bd. of Aldermen, voted to ask Legislature for authority to issue \$225,000 bonds for supplemental water supply from Linganore Creek.

Md., Rockville—Montgomery County asked Legislature for permission to issue \$2,144,000 school building bonds.

Md., Salisbury—City, E. J. C. Parsons, City Clk., opens bids Mar. 23 for \$50,000, 4½%, \$1000 denom. street improvement bonds. 3-5

Mo., Caruthersville—City defeated \$90,000 light plant bonds.

Mo., Independence—Jackson County votes May 12 on \$8,450,000 bonds: \$4,000,000, new courthouse and site in Kansas City; \$200,000, remodeling courthouse in Independence; \$250,000, new detention home and site; \$3,500,000, roads; \$500,000, parks.

Mo., Kansas City—City, H. F. McElroy, City Mgr., votes May 12 on \$32,000,000 bonds: \$4,000,000, city hall and site; \$2,750,000, parks and playgrounds; \$2,000,000, public hospitals; \$500,000, new city market; \$750,000, stadium and outdoor theater; \$375,000, fire department; \$125,000, new district police stations; \$8,300,000, trafficways and boulevards; \$1,000,000, Blue Valley flood protection and improvements; \$3,500,000, water supply improvements; \$4,500,000, municipal auditorium, including site; \$1,500,000, sewers; \$2,000,000, Brush Creek sewer; \$500,000, airport improvements; \$200,000, protection of safety zones, safety islands, underpasses and street signs. 2-19

N. C., Raleigh—State, O. Max Gardner, Governor, open bids Mar. 17 on \$9,557,000 bonds: \$4,000,000, highway; \$1,500,000, bridge; \$4,247,000, permanent improvement; \$60,000, building; bidders to name rate of interest.

N. C., Raleigh—City asked Legislature for permission to issue \$35,000 hospital bonds.

N. C., Williamston—Martin County, J. Sam Getsinger, Clk., opens bids Mar. 16 on \$80,000 revenue anticipation notes.

Okla., El Reno—City may vote soon on \$225,000 electrical distribution bonds.

Okla., Fairfax—City defeated \$120,000 light and power plant bonds. 2-12

S. C., Greenville—City, Greater Greenville Sewer Comsn., hold election Mar. 17 on \$220,000 bonds: \$135,000 bonds for Augusta road Section and \$85,000 for Northgate Section.

S. C., Greenville—City voted \$525,000 Parker Dist. sewer bonds. 1-15

Tenn., Brownsville—Haywood County Court, James Tipton, Chmn., opens bids Mar. 18 for \$100,000, 5½%, \$1000 denom. funding bonds.

Tenn., Knoxville—City, John C. Borden, Dir. of Finance, opens bids in few days for \$200,000 permanent improvement notes.

Tenn., Memphis—City, D. C. Miller, Clk., may sell \$1,740,000 bonds Apr. 14: \$1,000,000, water; \$290,000, street improvement; \$400,000, sewer; \$50,000, fire department.

Tenn., Mountain City—Johnson County, John T. Fuller, Clk., opens bids Mar. 21 for \$50,000 refunding bonds.

Tenn., Knoxville—Knox County Court

voted to ask Legislature to authorize issuance of \$200,000 highway bonds.

Tenn., South Pittsburg—City, W. M. Cameron, Recorder, opens bids Mar. 20 for \$75,000, not to exceed 6% street improvement bonds. 3-5

Tex., Beaumont—City, Raymond Edmond Edmonds, Clk., votes Mar. 28 on \$100,000 fair ground bonds.

Tex., Crockett—Houston County authorized by Legislature to issue \$31,000 funding bonds.

Tex., Dallas—Dallas County, Chas. E. Gross, County Auditor, has high bid from Dallas Bank and Trust Co., at 100.11 and accrued interest, at 4¼% on \$225,000 bridge warrants. 2-26

Tex., Edna—La Ward School Dist. of Jackson County voted \$47,000 school bonds.

Tex., Hamilton—Hamilton County, P. M. Rice, County Judge, voted \$65,000 courthouse bonds. 2-19

Tex., Haskell—Haskell County probably vote soon on \$100,000 courthouse bonds.

Tex., Marlin—Otto School Dist. of Falls County recently voted \$17,000 school bonds.

Tex., Mercedes—City, C. M. Henry, City Sec., voted \$614,594 refunding outstanding warrants; Brown-Crummer Investment Co., Wichita, Kans., to have charge of exchange of bonds. 2-26

Tex., Seminole—Gaines County Commrs. Court, J. J. Kendrick, County Judge, opens bids in 30 to 60 days for \$250,000 road bonds. 1-29

Va., Salem—Roanoke County, Thurston L. Keister, County Judge, called election for Apr. 14 on \$350,000 school bonds. 2-5

W. Va., Charleston—State Road Comsn., Geo. E. White, Sec., has petition before Legislature asking permission to issue \$25,000,000 road bonds, \$15,000,000 for state roads and \$10,000,000 for secondary roads.

W. Va., Kenova—City voted \$80,000 sanitary sewer bonds; to be sold at once.

W. Va., Pennsboro—City, Ira Taylor, City Clk., voted \$40,000 5½% bonds for extension of water service; open bids for purchase about May 1. 9-11-30

W. Va., Pennsboro—Town voted \$40,000, 5½% water bonds.

Bond Issues Sold

Ala., Haleyville—A. C. Drewry and B. J. Cowart, both Haleyville, jointly, purchased \$10,000 sanitary sewer bonds.

Ga., Atlanta—First National Co. purchased \$122,000, 4½% sewer bonds, at 107.51.

Ky., Owensboro—City sold \$47,000 school bonds to Magnus & Co., Cincinnati, Ohio.

La., Hahnville—St. Charles Parish Police Jury Richard Vial, Pres., School Bd., sold \$360,000, \$1000 denom. bonds to Whitney Trust & Savings Bank, New Orleans. 2-19

N. C., Charlotte—City Council sold \$306,000 notes to American Trust Co., at 3.75% interest rate, with \$50 premium.

N. C., Jackson—Northampton County, Harvey Hart, County Accountant, sold \$13,000, 5½%, \$1000 denom. jail building bonds to Glaspell, Vieth & Duncan, Davenport, Ia., at par and accrued interest. 2-26

Tenn., Jonesboro—Washington County sold \$500,000 funding bonds to Little, Wooten Co., Jackson, Tenn., at par, accrued interest and \$1651 premium.

Tenn., Maynardsville—Union County, George W. Young, County Judge, sold \$100,000, 5½%, short term notes to Union & Planters Bank, Memphis, at par.

Building & Loan Associations

N. C., Laurinburg—Laurinburg Savings & Loan Association, chartered; D. C. McPhail, Sec.-Treas.; Carl McLean, Pres.

New Financial Corporations

Ky., Middlesboro—Commercial Bank and Trust Co., capital \$25,000, chartered; Jacob Schultz, W. E. Cabell.

Miss., Brookhaven—Following named as committee on organizing new bank: L. A. Cato, J. J. Newman, H. V. Wall, V. D. Young, Dr. O. N. Arrington and J. W. McGrath.

Tenn., Camden—Bank of Camden, capital

\$20,000, chartered; A. E. Durdin, W. F. Quillin.

First National Bank of Louisville, John M. Monohan, Pres., reported, acquired assets of closed National Bank of Kentucky, Jas. B. Brown, Pres., both Louisville, Ky.

Laurel Fork Bank, Walter Hylton, Pres., Laurel Fork, Va., and Farmers Bank, C. B. Nuckolls, Pres., Hillsville, Va., merged.

Lindsay National Bank, S. M. King, Pres., and First National Bank, J. W. Downard, Pres., both Gainesville, Tex., merged.

Geo. R. Gear and Charles Summers acquired City National Bank, Guymon, Okla.

American Smelting and Refining Report

The thirty-second annual report of the American Smelting and Refining Company, New York, and its subsidiaries, for the year ended December 31, 1930, shows net earnings of mines, smelting, refining and manufacturing plants, of \$19,750,285, as compared with \$32,659,728 for the year ended December 31, 1929. Net income amounted to \$11,098,750 for 1930, as against \$21,831,583 for 1929. The company paid 1930 dividends amounting to \$11,528,097 and its balance at the end of the year was \$37,540,618. Its balance at the end of 1929 was \$44,281,168.

Buckner Heads New York Life

At the March meeting of the board of directors of the New York Life Insurance Company, New York, Thomas A. Buckner was elected president of the company and Darwin P. Kingsley, chairman of the board. Mr. Buckner began his service with the New York Life 51 years ago as an office boy and his rise to the highest executive position is described as making an interesting and inspiring story of business achievement.

Big Gains in Rural Power Customers

The electrification of rural districts by public utility systems during 1930 went forward at rapid rate, according to figures made public by the statistical research department of the National Electric Light Association. To the number of farms receiving electric service, 90,800 were added, representing an increase of 16.3 per cent, and bringing the total to 647,677. This compares with a gain of 95,900 farms in 1929 over 1928. A previous survey by the association showed that at the end of 1923 there were 166,140 farms being served. During the seven years following, the number of electrified farms has increased more than three times.

A school bond issue of \$1,000,000, to bear an interest rate of 4 per cent, has been sold by the Board of Education, Louisville, Ky., to the Harris Trust & Savings Bank, Chicago, Ill., at par, accrued interest and premium of \$15,593.

**Bankers, Manufacturers, Merchants,
of the South**

When in Baltimore, drop in and see us.
Maybe we can serve you in some way. The
acquaintance may prove mutually helpful.

BALTIMORE COMMERCIAL BANK

GWYNN CROWTHER, President

26 South Street, Baltimore, Md.

Capital and Surplus \$1,350,000

Member Federal Reserve System

WE extend the facilities of our organization to those desiring information or reports on companies with which we are identified.

**Electric Bond and
Share Company**

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New York

DELAWARE REGISTRATION TRUST CO.

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900 Market Street
Wilmington, Del.

J. Ernest Smith, President and General Counsel,
Chas. Warner Smith, Vice-President,
Harry W. Davis, Secretary and Treasurer.

**WE PURCHASE ISSUES OF SPECIAL ASSESSMENT BONDS
AND ADVANCE FUNDS TO RESPONSIBLE CONTRACTORS
ACCOUNT CONSTRUCTION COSTS SUCH ISSUES**

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S. G. GARRAWAY & COMPANY

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JOHN NUVEEN & CO.

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We purchase SCHOOL, COUNTY and MUNICIPAL
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Write us if you have bonds for sale.

We Buy Bonds

City, County, School and Road from
Municipalities and Contractors

WRITE

THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO

"The Early 1880's in Baltimore"

Southern men and women who lived in, or
visited Baltimore in the period when this Com-
pany was established—which was the year of
1884—will be interested, we believe, in our an-
niversary book "The Early Eighties: Sidelights
on the Baltimore of forty years ago." A copy
will be sent upon request.

**MERCANTILE TRUST COMPANY
OF BALTIMORE**

Resources \$24,000,000 A. H. S. POST, Pres. F. G. BOYCE, Jr., Vice-Pres.

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Record* a means of contact carrying
with it an atmosphere of responsibil-
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May we discuss this
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— SERVICE —

An Era of National prosperity is just ahead.

Florida has always recovered from former business depressions
before other sections.

Get on the band wagon that is leading the procession.

JACKSONVILLE

has a Municipal Electric Plant that furnishes current for industrial purposes at less than
1 cent per KWH.

Factory sites are reasonable, labor abundant and dependable, climate just right,
all means of transportation available.

You are invited to investigate

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as a place for manufacturing and distribution.

THE CITY COMMISSION

(Please mention this magazine)

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MANY DIFFERENT TYPES TO MEET EVERY CONDITION.
SAFEST AND MOST PERMANENT CONSTRUCTION.
ENORMOUS SAVING OF COST
FOR COMPLETE INFORMATION WRITE TO:-
SHORE-LINE BUILDERS, INC.
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THE growth and development of the South and Southwest demands extensive financing and banking facilities. If you are interested in enlarging your contacts in this section, may we discuss our advertising service with you?

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Norfolk, Va.

Gulf States Creosoting Co.

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Lumber, Timbers, Piles, Telephone and
Telegraph Poles and Cross-Arms,
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We also treat with Zinc Meta-Arsenite (colorless)

Northern Hard Rock Maple Flooring

Holt Hardwood Co., Oconto, Wis.

MEMBERS OF MAPLE FLOORING MANUFACTURERS ASSOCIATION

\$75,000,000

The New York Central Railroad Company

REFUNDING AND IMPROVEMENT MORTGAGE 4½% GOLD BONDS, SERIES A

(Additional Issues)

Dated October 1, 1913

Due October 1, 2013

Bearing interest from April 1, 1931, payable April 1 and October 1 in New York City

Redeemable, as a whole but not in part, at the Company's option, upon published notice, on any interest date, at 110% and accrued interest.

Coupon Bonds in denominations of \$1,000 and \$500, registerable as to principal. Registered Bonds in denominations of \$1,000, \$5,000 \$10,000 and \$50,000. Coupon and registered Bonds interchangeable.

Legal Investment, in the opinion of counsel, for Savings Banks in the States of New York, Massachusetts, Connecticut and New Jersey.

The issue and sale of these Bonds are subject to authorization by the Interstate Commerce Commission.

GUARANTY TRUST COMPANY OF NEW YORK, CORPORATE TRUSTEE.

Albert H. Harris, Esq., Chairman of the Executive Committee of the Board of Directors of The New York Central Railroad Company, has summarized as follows his letter to us regarding the Company and this issue of Bonds:

PURPOSE OF ISSUE These Bonds are being issued to provide for the payment of \$50,000,000 of The Lake Shore and Michigan Southern Railway Company's 4% Gold Bonds, maturing May 1, 1931, and to reimburse the Company for the payment of other debt previously retired and for expenditures incurred in the making of additions and improvements to its owned and leased properties.

PROPERTY The New York Central Railroad Company now operates about 10,490 miles of railroad, exclusive of trackage rights, of which about 4,120 miles are operated under indentures of lease dated January 2, 1930. By these indentures the Company leased from February 1, 1930, for a term of 99 years, the properties of its controlled companies, The Michigan Central Railroad Company, The Cleveland, Cincinnati, Chicago and St. Louis Railroad Company (Big Four), and the Chicago, Kalamazoo and Saginaw Railway Company, and the leasehold interests (for not exceeding the unexpired terms thereof) of those companies in other lines.

EARNINGS The following table of revenues and charges has been prepared to indicate the earnings for the last five years of the New York Central and the Companies the properties of which are now operated under lease (eliminating inter-company payments as to dividends on stock and interest on indebtedness, but including in fixed charges for each year an amount equal to annual dividends payable under leases executed in 1930 on shares of minority stock outstanding on February 1 of that year):

Years Ended December 31	Gross Operating Revenues	Income Applicable to Fixed Charges	Total Fixed Charges	Net Income
1926	\$597,564,113	\$131,721,547	\$54,718,929	\$77,002,618
1927	572,030,510	117,095,969	53,981,840	63,114,129
1928	570,169,610	122,680,086	55,240,442	67,439,644
1929	590,008,623	129,565,216	52,384,291	77,180,925
1930	478,918,347	89,705,297	53,744,143	35,961,154

Income applicable to fixed charges on the above basis amounted to 1.6 times fixed charges in 1930, and in each of the four previous years was more than twice such charges.

SECURITY Upon the issuance of these Bonds there will be outstanding in the hands of the public \$200,000,000 of Bonds secured by the Refunding and Improvement Mortgage.

The Mortgage is a direct lien on substantially all of the owned railroad of the Company, subject to the prior liens, in so far as they attach, of underlying bonds outstanding in the hands of the public on December 31, 1930, to a total principal amount, after giving effect to this financing, of \$372,951,000.

All of the leasehold interests, with minor exceptions, acquired by the New York Central under the leases effective February 1, 1930, were subjected to the lien of the Mortgage by supplemental indenture.

Securities pledged under the Mortgage include 99% of the capital stock of The Michigan Central Railroad Company (about 90% of such pledged stock of that company being subject to prior pledge under an indenture securing \$19,336,000 of outstanding bonds), and 98% of the common stock and 85% of the preferred stock of The Cleveland, Cincinnati, Chicago and St. Louis Railway Company.

EQUITY The Company's net investment, after depreciation reserves, in road and equipment and in miscellaneous physical property, improvements on leased railway property and other investments amounted on December 31, 1930, to \$1,508,035,314. This compares with \$672,303,733 total long term debt including equipment trust obligations, of the Company outstanding in the hands of the public on that date, after giving effect to this financing. The Company has outstanding \$499,259,735 par value capital stock.

The New York Central and all railroad companies the properties of which are now operated under lease had, on December 31, 1930, a total net investment, after depreciation reserves, in road and equipment and improvements on leased railway property of \$1,834,047,314. This compares with \$1,048,996,650 aggregate long term debt, including equipment trust obligations, of the New York Central and such lessor companies outstanding in the hands of the public on that date, after eliminating inter-company holdings and after giving effect to this financing. A portion of such debt, including \$80,702,500 principal amount represented by bonds of the West Shore Railroad Company and of the Boston and Albany Railroad Company, has been guaranteed by indorsement by The New York Central Railroad Company.

The foregoing is subject to the more complete statements contained in the Circular, a copy of which may be obtained upon application.

THE ABOVE BONDS ARE OFFERED, SUBJECT TO PRIOR SALE AND TO THE CONDITIONS STATED BELOW, AT 100% AND ACCRUED INTEREST.

The right is reserved to reject any or all applications, and also, in any case, to allot a smaller amount than applied for. All applications will be received subject to the due authorization, issue and sale of the Bonds as planned and to approval by counsel of the form and validity of the related documents and proceedings.

The amounts due on confirmed sales will be payable at the office of J. P. Morgan & Co., in New York funds to their order, and the date of payment (on or about April 1, 1931) will be stated in the confirmations of sale. Temporary Bonds or Interim Receipts, exchangeable for definite Bonds when received, are to be delivered.

J. P. MORGAN & CO.

FIRST NATIONAL BANK, NEW YORK
GUARANTY COMPANY OF NEW YORK
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THE NATIONAL CITY COMPANY
BANKERS COMPANY OF NEW YORK
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LEE, HIGGINSON & CO.

New York, March 10, 1931.

\$121,000,000 for Buildings in South

Apportionments Part of \$415,000,000 Federal Program Outside District of Columbia

Washington, D. C.—According to a tabulation of figures presented by the United States Daily on the Federal building program outside of the District of Columbia proposed under the \$415,000,000 authorization contained in acts approved May 25, 1926, February 24, 1928, March 31, 1930, and February 16, 1931, as reported to the House of Representatives February 27, 1931, by the Joint Interdepartmental Committee of the Treasury and Post Office departments, amounts allocated for projects in the 16 Southern states aggregate \$121,000,000. Apportioned as to states they include the following: Alabama, \$3,635,000; Arkansas, \$3,355,000; Florida, \$9,460,000; Georgia, \$6,475,000; Kentucky, \$6,378,000; Louisiana, \$6,545,000; Maryland, \$7,500,000; Mississippi, \$2,532,000; Missouri, \$18,275,000; North Carolina, \$6,830,000; Oklahoma, \$6,150,000; South Carolina, \$2,860,000; Tennessee, \$7,460,000; Texas, \$21,096,000; Virginia, \$8,870,000, and West Virginia, \$4,540,000.

Cities and towns in Southern states for which allocations of \$250,000 or more have been made are as follows:

Alabama—Birmingham, \$425,000; Montgomery, \$1,045,000; Mobile, \$1,000,000; Huntsville, \$260,000.
Arkansas—El Dorado, \$425,000; Little Rock, \$1,435,000; Texarkana, \$790,000.
Florida—Daytona Beach, \$285,000; Jackson-

ville, \$2,690,000; Key West, \$650,000; Miami, \$2,145,000; Tampa, \$775,000; West Palm Beach \$325,000.
Georgia—Atlanta, \$3,125,000; Columbus, \$410,000; Gainesville, \$335,000; Macon, \$395,000; Savannah, \$900,000.
Kentucky—Ashland, \$310,000; Covington, \$355,000; Louisville, \$3,445,000.
Louisiana—Alexandria, \$375,000; Baton Rouge, \$465,000; Monroe, \$390,000; New Orleans, \$4,155,000; Shreveport, \$350,000.
Maryland—Baltimore, \$5,970,000; Cumberland, \$540,000; Hagerstown, \$300,000.
Mississippi—Jackson, \$825,000; Meridian, \$555,000.
Missouri—Jefferson City, \$450,000; Kansas City, \$7,300,000; St. Louis, \$8,475,000.
North Carolina—Asheville, \$650,000; Charlotte, \$525,000; Durham, \$650,000; Greensboro, \$900,000; High Point, \$400,000; New Bern, \$325,000; Raleigh, \$360,000; Winston-Salem, \$625,000.
Oklahoma—Ada, \$250,000; Bartlesville, \$310,000; Oklahoma City, \$1,100,000; Okmulgee, \$330,000; Ponca City, \$250,000; Tulsa, \$1,160,000.
South Carolina—Anderson, \$275,000; Columbia, \$550,000; Greenville, \$360,000; Rock Hill, \$300,000; Spartanburg, \$420,000.
Tennessee—Chattanooga, \$1,435,000; Jackson, \$350,000; Knoxville, \$1,575,000; Memphis, \$1,400,000; Nashville, \$1,565,000.
Texas—Arlene, \$345,000; Austin, \$625,000; Beaumont, \$680,000; Brownsville, \$430,000; Dallas, \$2,155,000; El Paso, \$1,250,000; Fort Worth, \$2,660,000; Galveston, \$1,890,000; Houston, \$615,000; Laredo, \$285,000; Lubbock, \$335,000; Sabine Pass, \$375,000; San Antonio, \$1,800,000; Tyler, \$360,000; Waco, \$650,000; Wichita Falls, \$725,000; \$535,000 immigration station omitted at El Paso because of lack of title to site.
Virginia—Alexandria, \$380,000; Danville, \$500,000; Lynchburg, \$848,000; Norfolk, \$2,725,000; Richmond, \$1,900,000; Roanoke \$560,000; Petersburg, \$400,000.
West Virginia—Charleston, \$1,200,000; Clarksburg, \$475,000; Huntington, \$390,000; Parkersburg, \$365,000; Wheeling, \$700,000.

Tire Company Buys Stark Mills

Hogansville, Ga.—The United States Rubber Co., New York, will take over the Stark Mills here, a unit of the Callaway group of cotton mills, according to F. B. Davis, Jr, president of the rubber company and Cason Callaway, president of the Callaway Mills, Inc., La Grange, Ga. The plant is equipped with more than 35,000 ring spindles and 124 looms for the production of tire fabric. It is understood the production of tire cordage will be increased 50 per cent and 550 operatives will be employed, an increase of 400, the additional force to be obtained from nearby communities. Through a close working arrangement to be established with its mills at Winnsboro, S. C., and its textile and development facilities, the company plans to produce tire cord of uniform quality with the Stark Mills, consuming 25,000 bales of Georgia cotton annually.

Washington, D. C.—President Hoover has approved the bill adding \$20,800,000 to the veterans' hospital program and making \$5,000,000 immediately available for beginning construction. The bill confers authority upon the Veterans' Administrator, General Frank T. Hines, to select sites for hospitals and make allocations. It is understood that action will be speeded in order to get the building program under way as soon as possible.



BOND ISSUES

PROPOSALS

BUILDINGS

PAVING

GOOD ROADS



Bids close March 23, 1931.

Sealed bids, in duplicate, will be received at the U. S. Engineer Office, Federal Building, Rock Island, Illinois, until 3:00 P. M., March 23, 1931, and then publicly opened for furnishing all labor and materials and performing all work required for the construction of two parallel locks, Lock and Dam No. 15, Mississippi River, at Rock Island, Illinois, including guide and guard walls, lock gates, taintor gate valves, etc. Further information on application.

Bids close March 19, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., February 25, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., March 19, 1931, for furnishing all labor and materials and performing all work for the foundations, etc., of the U. S. post office and court house at Trenton, N. J. Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. JAS. A. WETMORE, Acting Supervising Architect.

GENERAL INFORMATION

About Proposal Advertising
in Manufacturers Record

PUBLICATION DAY: Thursday.

FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible.

THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close April 15, 1931.

U. S. ENGINEER OFFICE, MEMPHIS, TENN.—Sealed bids will be received here until 2 P. M., April 15, 1931, and then opened, for constructing two steel hull, self-propelled suction dredges with 32 inch discharge. Propelling machinery, two triple expansion, vertical, marine type engines, of 600 H.P. each. Dredging machinery, 1250 B.H.P. normal. Steam turbine with double reduction gear. Overall dimensions involved 214 ft. long, 46 ft. wide, 9 ft. deep, 5 ft. draft. Estimated total weight, 1075 tons. Deposit of \$150 required for plans. Information on application.

Bids close March 31, 1931.

OFFICE OF THE ARCHITECT OF THE CAPITOL, Washington, D. C., March 7, 1931. SEALED BIDS will be opened in this office at 3 P. M., March 31, 1931, for the furnishing and installing of an underground lawn sprinkling system within the area of the Enlargement of the U. S. Capitol Grounds. Drawings and specifications, not exceeding two sets, may be obtained at the Office of the Architect by any satisfactory general contractor. A deposit of \$25.00 will be required for each set of drawings and specifications to insure their prompt return in good condition. Checks therefor to be made payable to the order of David Lynn, Architect of the Capitol.

Bids close March 18, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., February 20, 1931.—**SEALED BIDS** in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., March 18, 1931, for furnishing all labor and materials and performing all work for the remodeling and enlarging of the U. S. post office at Murfreesboro, Tenn. Drawings and specifications not exceeding one set may be obtained by any satisfactory general contractor at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close April 2, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., March 5, 1931.—**SEALED BIDS** in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., April 2, 1931, for furnishing all labor and materials and performing all work for the remodeling and enlarging of the U. S. post office at Greenville, Miss. Drawings and specifications, not exceeding one set, may be obtained by any satisfactory general contractor at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close March 25, 1931.

OFFICE OF THE ARCHITECT OF THE CAPITOL, Washington, D. C., March 7, 1931. **SEALED BIDS** will be opened in this Office at 3 P. M., March 25, 1931, for the construction of walks on the site for the enlargement of the U. S. Capitol Grounds, Washington, D. C. Drawings and specifications, not exceeding two sets, may be obtained at the Office of the Architect of the Capitol, in the discretion of said Architect, by any satisfactory general contractor. A deposit of \$25.00 for each set of drawings and specifications will be required to insure their return in good condition. Checks therefor to be made payable to the order of David Lynn, Architect of the Capitol.

Bids close April 14, 1931.

SEALED BIDS, in triplicate, subject to the conditions contained herein, will be received by the U. S. Veterans' Bureau, Room 764, Arlington Building, Washington, D. C., until 2.30 P. M., April 14, 1931, and then publicly opened for furnishing all labor and materials and performing all work required for constructing and finishing complete at U. S. VETERANS' HOSPITAL, CANANDAIGUA, NEW YORK, BUILDINGS AND UTILITIES, including roads, walks, grading and drainage. This work will include excavating, reinforced concrete construction, hollow tile, brick work, cut stone, cast stone, architectural terra cotta, marble work, floor and wall tile, rubber tile, compressed asphalt tile and linoleum floors, terrazzo, iron work, steel sash, steel stairs with slate and cast iron treads, steel shelving, cabinets and partitions, slate, metal and built-up roofing, skylights, roof ventilators, metal lathing, plastering, sound-deadening, carpentry, dumb-waiter, platform scale, metal weatherstrips, insect screens, window shades, painting, glazing, hardware, plumbing, vacuum cleaning system, refrigerating and ice-making plant, boiler plant, radial brick chimney, heating and ventilating, electrical work, electric elevators, nurses' call system, fire alarm system and outside sewer, water, gas, steam and electric distribution systems. **SEPARATE BIDS** will be received for (a) General Construction including Radial Brick Chimney; (b) Plumbing, Heating, Electrical Work and outside distribution systems; (c) Electric Elevators; (d) Refrigerating and Ice-Making Plant; all as set forth on bid form. Bids will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract and in making awards, the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. At the discretion of the Director, drawings and specifications may be obtained upon application to the Construction Division, Room 764, Arlington Building, Washington, D. C. While no deposit will be necessary, return of the drawings and specifications within ten days after date of opening bids will be required. Failure to comply with this requirement will be considered in connection with future applications for drawings and specifications. **GEORGE E. IJAMS**, Director, March 5, 1931.

Bids close March 26, 1931.

War Department, Office Constructing Quartermaster, Fort Bragg, N. C. Sealed proposals in triplicate will be received until 10:00 A. M., March 26, 1931, and then publicly opened, for the construction and completion of three (3) two story Field Officers', three (3) two story Company Officers', six (6) one story Company Officers' and four (4) Non-commissioned Officers' quarters at Fort Bragg, N. C. Bid bond in the total sum of \$22,500.00 will be required with each proposal. \$25.00 deposit certified check, payable to Treasurer of the United States, required for plans and specifications. Further information on request.

Bids close April 10, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., March 6, 1931.—**SEALED BIDS**, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., April 10, 1931, for furnishing all labor and materials and performing all work for the construction (except elevators) of the U. S. post office, etc., at Lubbock, Texas. Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close April 7, 1931.

U. S. ENGINEER OFFICE, First New Orleans District, Poland and Dauphine Streets, New Orleans, La. **SEALED BIDS**, in duplicate, will be received until 2 P. M., April 7, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for clearing the site, constructing sheet pile cofferdam, making the excavation, driving the foundation piling and sheet pile cut-off walls, constructing the concrete lock walls and floor, including the reinforcing steel, and constructing a temporary open deck timber pile trestle under the tracks of the Texas Pacific-Missouri Pacific Terminal Railroad of New Orleans, providing maintenance on the trestle until such time as traffic is suspended thereon and routed over the new bridge, all in connection with the lock which is to be constructed in the Mississippi River at Harvey, La.

Bids close March 17, 1931.

Bridges

**DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION**

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building bridges as follows:

Frederick County, Contract No. F-172-57—Concrete floor for bridge now under construction over the Monocacy River at Furnace Ford on the Buckeystown Pike

Prince George's County, Contract No. P-157-311—Slab bridge with sidewalks, fill and surfacing on Central Avenue at Capitol Heights.

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 17th day of March, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 3rd day of March, 1931.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close March 20, 1931.

\$75,000 6% Bonds

South Pittsburg, Tenn.

On March 20th, 1931, at the office of the City Recorder, in South Pittsburg, Tennessee, the City of South Pittsburg will offer for sale and sell to the highest and best bidder \$75,000.00 of par value of bonds of the City of South Pittsburg, bearing interest at not more than six per cent and maturing not more than 40 years after date.

R. C. AYCOCK,

Mayor.

W. M. CAMERON,
Recorder.

Bids close March 17, 1931.

Bridges

Baton Rouge, La.

Sealed Proposals for the construction of the following Projects will be received by the Louisiana Highway Commission, Room No. 614 Louisiana National Bank Building, Baton Rouge, Louisiana, until 9:45 A. M. on Tuesday, March 17, 1931. Proposals will not be received after this hour. At 10 o'clock A. M. of the same day and date, they will be publicly opened and read in the Chamber of the Senate in the State Capitol Building.

(BOND) PROJECT NO. 2200, OUA-CHITA RIVER BRIDGE AT HARRISON-BURG ON THE HARRISONBURG-SICILY ISLAND HIGHWAY. Located in Catahoula Parish, Route No. 18. DESCRIPTION: 1 320-ft. Swing Span; 2 200-ft. Steel Truss Spans; Reinforced Concrete Piers; 370 Lineal feet Concrete Deck Girder Span on Concrete Piles. Roadway width 20 ft. Approx. 0.8 miles of earth approaches including gravel surfacing. Charge for plans, \$3.00.

(BOND) PROJECT NO. 2400, BLACK RIVER BRIDGE AT JONESVILLE ON THE JONESVILLE-FERRIDAY HIGHWAY. Located in Catahoula and Concordia Parishes, Route No. 6. DESCRIPTION: 1 320-ft. Swing Span; 3 250-ft. Steel Truss Spans; Reinforced Concrete Piers on Timber Piles; 1130 lineal ft. Concrete Deck Girder Spans on Concrete Bents. Roadway width 24 ft. Approx. 1.8 miles of earth approaches, including gravel surfacing. Charge for plans \$3.00.

(BOND) PROJECT NO. 4504, INDUSTRIAL CANAL BRIDGE NEAR NEW ORLEANS ON THE NEW ORLEANS-CHEF MENTEUR HIGHWAY. Located in Orleans Parish, Route No. 2. DESCRIPTION: 1 100-ft. Clear Opening Double Leaf Trunnion Bascule Span on Concrete Piers; Approx. 180 lineal feet Concrete Deck Girder Span on Concrete Piles. Roadway width 40 ft. Charge for plans \$4.00.

Full information and proposal forms are available at the offices of the Highway Commission at Baton Rouge. Plans and Specifications may be inspected there or will be furnished upon payment of amounts specified above (not to be refunded).

HARRY B. HENDERLITE,
State Highway Engineer.
O. K. ALLEN, Chairman,
Louisiana Highway Commission.

Bids close April 7, 1931.

Road Construction and Material

Bastrop, La.

Sealed proposals will be received by the Police Jury of Morehouse Parish at Bastrop, Louisiana, up to 11 A. M. Tuesday, April 7, at which time and place they will be publicly opened and read for the following construction and material.

Project No. 6—Beginning at the north end of Project B-1, 6½ miles west of Bastrop and extending west to the Ouachita river. Approximate length 2 miles.

Sealed proposals for gravel for this project will be received up to the same hour and date.

Information as to location, character of work, extent and class of material, terms of payment, regulation governing manner of submitting proposals and executing contract, and proposals for the above work and material may, on application, be obtained at the office of the Parish Engineer at Bastrop, Louisiana, after March 10.

J. LESTER WHITE,
Parish Engineer.

J. W. BRODNAX,
Pres. Police Jury.

Bids close March 17, 1931.

Maryland Highway WorkDEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION**NOTICE TO CONTRACTORS**

Baltimore, Md.

SEALED PROPOSALS for building three sections of State Highway as follows: Caroline County, Contract No. Co-66-22—

Federal Aid Project No. 232-A—One section of State Highway from Ridgely toward Greensboro, a distance of 2.2 miles (concrete)

Frederick County, Contract No. F-165-611—Federal Aid Project No. 227-A—One section of State Highway along the Jefferson Pike from Frederick to Jefferson, a distance of 7.8 miles (concrete shoulders)

Howard County, Contract No. Ho-90-52—One section of State Highway along the Woodstock Road, from Old Frederick Road toward Woodstock, a distance of 1.25 miles (Macadam Resurfacing)

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 17th day of March, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 3rd day of March, 1931.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close March 17, 1931.

Virginia Highway Work

Richmond, Va.

Sealed bids will be received Tuesday, 10 A. M., March 17, 1931, Va. Dept. of Highways, Richmond, Va.

Proj. No.	Type	Sq. Yds.	Excava.
70	3.2 Mac. S. T.	53,130	38,465
314-3	Con. Mac. & Sh. As.	15,000	9,000
493Br-738	cys. Conc.; 202,300 str.	105,240 lbs. reinf.	
494	2.8 Gr. & Dr.		68,068
575	1.4 Cold Bit. Pave.	12,000	1,914
688	2.5 Mac. S. T.	42,941	64,374

Details obtainable upon request.

Bids close March 17, 1931.

Cold Tar Patch and AsphaltDEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION**NOTICE TO CONTRACTORS**

Baltimore, Md.

SEALED PROPOSALS for furnishing 1,000,000 gallons (more or less) TAR COLD PATCH and 350,000 gallons (more or less) PENETRATION ASPHALT.

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M. on the 17th day of March, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 25th day of February, 1931.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close March 16, 1931.

Street Paving

Richmond, Va.

Sealed proposals will be received at the office of the Director of Public Works, Richmond, Va., until 3 o'clock P. M. March 16, 1931, for the paving of 17th St. with 4300 Sq. Yds. of Brick on 6-in. Concrete Base.

Form of Proposal, Plans and Specifications can be obtained on application.

A charge of \$2.50 will be made for these plans, etc., which sum will not be refunded. A certified check for the amount stated (\$600.00) on proposals must accompany each bid as a guaranty of execution of contract. The Director of Public Works reserves the right to reject any and all bids.

R. KEITH COMPTON,
Director Public Works,
City Hall.

Bids close March 16, 1931.

Street Paving

Richmond, Va.

Sealed proposals will be received at the office of the Director of Public Works, Richmond, Va., until 3 o'clock P. M. March 16, 1931, for the paving of various streets with 1½-in.—1½-in. Sheet Asphalt or 2-in. Warrentite Bitulithic on Concrete Base. Total 18,225 Sq. Yds.

Form of Proposal, Plans and Specifications can be obtained on application.

A charge of \$5.00 will be made for these plans, etc., which sum will not be refunded. A certified check for the amount stated (\$2,500.00) on proposals must accompany each bid as a guaranty of execution of contract. The Director of Public Works reserves the right to reject any and all bids.

R. KEITH COMPTON,
Director Public Works,
City Hall.

Bids close March 19, 1931.

Bituminous Material

Richmond, Va.

Sealed bids will be received March 19, 1931, 10 A. M., Thursday, Dept. of Highways, Richmond, Va., for furnishing 8,830,000 gals. cold surface treatment and 1,369,000 gals. cold patching material and applying 4,633,500 gals. surf. treat. Bids must be submitted on proposals furnished by Dept.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES**WATER POWER**

WATER POWER—Will sell or lease 350 to 1000 horsepower.

E. L. THOMAS,
Belton, S. C.**COAL LANDS AND MINES****COMMISSIONERS' SALE VALUABLE COAL LANDS**

The undersigned Special Commissioners, by order of the Circuit Court of Fayette County, West Virginia, will on THURSDAY, MARCH 19, 1931, at one o'clock p. m., at the front door of the court house in Fayetteville, sell at public auction all those certain tracts or parcels of real estate and mineral tracts, property of the Frantz Coal Land Company, a corporation, situate in Falls and Mountain Cove Districts, Fayette County, West Virginia, aggregating 7114 acres. Terms of sale: one-third cash, balance in six and twelve months. This is valuable coal acreage. A list of the tracts will be furnished on application.

F. N. BACON
E. W. BECKER,
Special Commissioners.
Fayetteville, West Va.**TIMBER OPERATION**

FOR SALE—Complete Saw Mill with Planing Mill, Dry Kiln, and all necessary equipment, well located in South Carolina, with an abundant timber supply behind it. Capacity 30,000 ft. per day. Can be bought at a reasonable price. Address P. O. Box 1428, Norfolk, Va.

Rates, Terms and Conditions

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:100 lines 28c a line
300 lines 26c a line
500 lines or more 25c a line

TERMS: For transient advertising cash with order; check, postoffice or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES**TIMBER AND TIMBER LAND**

HAVE 3000 Fine Virgin white pine and oak trees up to 100 feet tall; make offer for trees or selected lumber.

H. EHMLER, Hoosick Falls, N. Y.

FARM, FRUIT AND TRUCK LANDS**FLORIDA**

5000 ACRES of IDEAL TUNG OIL, fruit and Agriculture land at a real bargain price if sold quick. Write for price. A. A. GEITGEY, Glen St. Mary, Florida.

12 ACRES garden land in corporation of Ormond, Fla.; 50 bearing orange and grapefruit trees, also figs and peaches; 9-room house, completely furnished, including electric refrigerator, piano, etc. City water, electric lights, rose garden, lily pool. Price for quick sale \$7800.00.

A. H. BLEEKMAN, Ormond, Fla.

TEXAS

LOWER RIO GRANDE Valley orchards and acreage at actual value. Owner's price direct to you. Send for list. ROBERTS REALTY CO., Realtors, McAllen, Tex.

MEXICAN INVESTMENTS

MEXICO. Reports made on investments and prospective investments for Banks, Industrial Plants, Mines and Utilities. W. R. Pender Eng. Service Corp., Post Dispatch Bldg., Houston, Texas.

BUSINESS OPPORTUNITIES

MEMPHIS, THE WORLD'S HARDWOOD MARKET. The meeting place of buyer and seller on the ground in touch with conditions; you get prompt confidential service. Orders placed for direct shipment. E. W. PRATT, JR., Buyer and Shipping Agent, Southern Hardwoods, Lee Bldg., Memphis, Tennessee.

BUSINESS OPPORTUNITIES

WANTED—Partner to join in organizing small manufacturing plant. \$5000 to \$10,000 capital required. Write for particulars. "H" Box 271, Charlotte, N. C.

LONG TERM LOANS, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

MANUFACTURERS—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

KINGSPORT, TENNESSEE, a city of 18,000 population, has no BAKERY. Here is one of the best openings for a BAKERY in the South. Building and equipment on reasonable terms. Further information furnished on request.

HARRIS & GRAVES, Kingsport, Tenn.

GOOD BUSINESS OPPORTUNITY—Knitting or Rayon plant. Will furnish lot 145x150 for business; Winston-Salem, N. C. Erect suitable building for business any kind of merit, suitable for mail order business or jobbing for adjoining states. Address Post Office Box 307, Newton, North Carolina, for further consideration.

CORPORATE FINANCING, Municipal Bonds, First Mortgage Loans originated and sold. Negotiations in Water Works and other Utilities. BANKERS BOND AND MORTGAGE CO., AMARILLO, TEXAS

FINANCIAL

THE PERKINSTON BRICK WORKS, INC., of Perkinston, Miss., offer an exceptionally good investment in their capital stock. Write for full details. No obligation incurred.

INDUSTRIAL SURVEYS

ENGINEERING REPORTS on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO., Woolworth Building New York City

INDUSTRIAL PLANTS

COTTON MILL FOR SALE—Complete plant of 14,000 spindles adapted for making 20's to 30's single and ply yarns—Two story brick mill building, brick warehouse, waste houses, 51 tenant houses, 30 acres of land situated immediately outside of town of 3,000 population in Piedmont North Carolina—Healthful locality—Efficient help plentiful—Plant now in full operation—Will sell at sacrifice price—Inspection by interested parties invited—Communicate with No. 9093 care Manufacturers Record.

INDUSTRIES WANTED

WELL-LOCATED Southern town wants industry. Will furnish plant, moving expenses, additional capital and other concessions.

INDUSTRIAL SERVICE CORP., Asheville, N. C.

FACTORY BUILDINGS

FOR SALE

\$25,000 3-story, brick building mill construction 24,000 sq. ft. floor space, sprinkling, heating, lighting systems. Four R. Rs., barge canal, plenty labor, country wages. Low overhead.

C. D. TOWNE, Weedsport, N. Y.

FACTORY SITES

TWO AND ONE-QUARTER MILES railroad frontage industrial sites for sale at Baton Rouge. Southern Land and Investment Company, Baton Rouge, La.

INDUSTRIAL SITE for sale, cheap for quick sale, 43 acres bordering on Atlantic Coast Line and Seaboard Air Line Railways in Florence, S. C. Ideal for lumber company. Aiken & Long, Inc., Florence, S. C.

PATENT ATTORNEYS

FREE "PATENT PARTICULARS" Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

PATENTS—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

PATENTS—TRADEMARKS—COPYRIGHTS Charlotte office convenient to South. PAUL B. EATON, Registered Patent Attorney, 218 Johnston Building, Charlotte, N. C., and 314 McLachlen Building, Washington, D. C.

SEYMOUR & BRIGHT, Registered Patent Attorneys. Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service. Suite 600-4, Barrister Building, Washington, D. C.

AGENCIES WANTED

WELL ORGANIZED FIRM, established 14 years, good connections with architects and contractors in Florida, splendid sales force, will represent manufacturers of building equipment, specialties, furnishings and supplies. AGENCY DEPT. MIAMI TILE & MARBLE CO., 1038 N. E. Second Avenue, Miami, Fla.

REPRESENTATIVES WANTED

WE MAKE Water Conditioning Chemicals and desire to communicate with men now active, calling on the power trade or handling boiler room specialties. Work is highly remunerative. Address No. 9080, care of Manufacturers Record, Baltimore.

REPRESENTATIVES WANTED

PUMP MANUFACTURER has several open territories in South. He would like to contact with sales representatives, covering building engineers, municipal engineers, and industrials. Line includes high and low pressure Centrifugal Pumps of capacities up to 3000 GPM, non-clogging pumps up to 7500 GPM, and axial flow pumps for low heads up to 20,000 GPM. A profitable line of equipment for a good Engineers Sales Organization. Address No. 9091, care Manufacturers Record, Baltimore, Md.

SITUATIONS WANTED

WATER PURIFICATION ENGINEER, 23, technical training in plant operation, desires position in construction or operation; will go anywhere and handle any size plant; references. Address No. 9094, care of Manufacturers Record, Baltimore, Md.

CONSTRUCTION SUPT.—15 years experience as superintendent of construction on water lines, sewers, filter plants, sewage disposal, excavation, paving, concrete construction. Economical; good organizer and pusher. Can estimate and handle general business. Graduate civil engineer; married; age 36. Desire permanent connection with contractor or industrial outfit that can use this experience. Address No. 9086, care of Manufacturers Record, Baltimore, Md.

MEN WANTED

IF YOU ARE OPEN to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-one years. Send only name and address for details.

R. W. BIXBY, INC., 103 Downtown Bldg. Buffalo, New York

MACHINERY AND SUPPLIES

ELECTRICAL MACHINERY For Sale—Motors and Generators, A.C. and D.C. New and Rebuilt. Attractive prices. Large Stock. Write for Price List. V. M. NUSSBAUM & CO., Fort Wayne, Ind.

FOR SALE—1 No. 6 Black & Decker Electric Hammer, with set of 10 drills. Slightly used but in excellent condition. \$145.00. HARRISON HDW. & FURN. COMPANY, St. Petersburg, Fla.

MACHINERY AND SUPPLIES WANTED

WANTED TO BUY 30-5 yd.-36" ga. Steel Sill Dump Cars. 20-12 yd.-Std. Ga. Steel Sill Dump Cars. Must be good and cheap. Address No. 9092, care Manufacturers Record.



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EQUIPMENT

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AIR COMPRESSOR WANTED

One good used, single, enclosed, self oiling, steam driven Air Compressor. Steam pressure 90 to 150 lbs. Size 10x13x12. Displacement cubic ft. per minute from 450 to 500. Give complete information and address

W. W. PARTEE, Purchasing Agent
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SOUTHERN business
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MANUFACTURERS RECORD
BALTIMORE, MD.

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OFFERS BIG BARGAINS IN

Used and Rebuilt Engine Generator Sets, Turbo Generator Sets, Motors, Rotary Converters, Generators, Motor Generator Sets, Engines, Boilers, Steam and Electric Machinery of all kinds, also Machine Tools. Send for our new machinery list. Yours for the asking. Established 60 years.

The RANDLE MACHINERY CO.

1734 Powers St., Cincinnati, Ohio

BOILERS AT \$2.00 PER H. P.

Butt Strap, High Pressure, H. R. T. Boilers.

6-150 H.P. 150 lbs. steam pressure, Atlanta, Ga.
3-150 H.P. 150 lbs. steam pressure, Augusta, Ga.
3-150 H.P. 150 lbs. steam pressure, Nashville, Tenn.
6-150 H.P. 140 lbs. steam pressure, River Falls, Ala.
6-150 H.P. 130 lbs. steam pressure, Lake, Miss.
3-Springfield water tube boilers, 242 H.P. each, 175 lbs. steam pressure, Nashville, Tenn.
These boilers must be moved immediately. We guarantee insurance at above pressure. Write or wire for details.

W. M. SMITH & CO.
Box 1709 Birmingham, Ala.

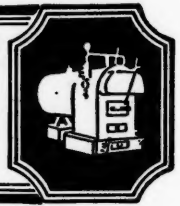


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MACHINERY

EQUIPMENT

SUPPLIES



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BOILERS

- 2—400 H.P. Springfield water tube, 225 lb. pressure, ASME.
1—150 H.P. 72"x18" Return tubular, 150 lb. pressure, ASME.
1—125 H.P. Locomotive, 125 lb. pressure, ASME.

GENERATOR SETS

- 200 KVA 220 vt. 3 ph. 60 cy. Burke with Filler Stowell Uniflow Engine.
2—50 KVA 220 vt. 3 ph. 60 cy. Ridgway with Ridgway Engine.

HEATERS

- 2—1000 H.P. Cochrane open type feed water heaters.

LATHE

- 28"-60" x 32" McCabe 2 in 1 lathe, belt drive, geared face plate, 25' centers, taper attachment, chuck jaws and countershaft. Good condition.

PLANER

- 30" x 30" x 6' Detrich & Harvey openside planer, belt drive, 1 rail head, 1 side head, table 24" x 6'; Bargain.

THE O'BRIEN MACHINERY CO.

113 North Third Street

Philadelphia, Pa.

FOR SALE DIESEL ENGINE

Practically new Fairbanks Morse Model 32 Diesel Engine 240 H. P., direct connected to 200 KVA, 3 phase 60 cycle 480 volt alternator and 10 KVA 125 volt exciter together with switch board, voltage regulator. Compressor and reservoir for air starting complete.

D. H. SENCINDIVER

Winchester, Va.

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can be disposed of if you tell our readers about it—rates on request.

Advertise it in the
MANUFACTURERS RECORD

PLANER

30" x 30" x 8' Detrick & Harvey Openside. With one head on cross rail and one side head.

DELTA EQUIPMENT CO.

148 N. 3rd Street Philadelphia, Pa.

DEEP WELL PUMP WANTED

Slightly used late model deep well pump, capacity about 75 GPM with about 350' total lift. Write giving full details to

SPoon & LEWIS, Consulting Engineers
Greensboro, N. C.

LOCOMOTIVE BOILER

- 1—125 H.P. Nagle A.S.M.E.—125 lb. pressure. Complete with stack.

M. J. HUNT'S SONS

1620 N. Delaware Ave. Phila., Pa.

Second Hand and New **PIPE** Overhauled and New Threads Wrought Steel and Couplings Also Cut to Sketch

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187-205 Maspeth Ave. Brooklyn, N. Y.

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ALBERT PIPE SUPPLY CO., INC.

NEW-RECLAIMED-USED

PIPE

ALL SIZES CUT TO SKETCH AND STOCKED

BERRY & NORTH 13th STS. BROOKLYN, N.Y.

GUARANTEED

SERVICE

PRICES

REBUILT MOTOR BARGAINS				
No.	H.P.	Speed	Make	Price Ea.
1	40	850	Westinghouse	\$250.00
1	37½	900	Western Elec.	225.00
3	20	900	Westinghouse	175.00
2	10	1200	Allis Chalmers	125.00
1	10	1140	Richmond Elec.	90.00
1	7½	1120	Westinghouse	100.00
1	7½	1720	Richmond Elec.	60.00

Price includes starting equipment, base and pulley.

DIRECT CURRENT MOTORS				
No.	H.P.	Volts	Speed	Make
1	30	230	1150	G. E.
1	15	200	1770	G. E.
1	10	230	1250	G. E.
1	7½	550	1125	G. E.
1	7½	230	825	G. E.
1	7½	550	1850	G. E.
1	5	500	1650	Bullock

Starting Equipment extra.

I. BLUFORD & CO.
15th and Franklin Sts., Richmond, Va.

IRON AND STEEL PIPE

Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

CENTRAL PIPE & SUPPLY CO.
Box 1099 Charleston, W. Va.

Just Received
**100,000 FEET 1-INCH
USED BLACK PIPE
IN 20-FOOT LENGTHS**

Good Threads and Couplings; first-class condition

MARYLAND PIPE AND STEEL CO.,
Scott and Ostend Sts., Baltimore, Md.

PIPE NEW

SECOND HAND

Overhauled and Tested
New Threads and Couplings
Established 1904

**Albert & Davidson
Pipe Corp.**

Second Ave., 50th-51st St., Brooklyn, N. Y.
Telephone Sunset 1900

—TRANSFORMERS— SALES AND REPAIR SERVICE

TWO COMPLETE 66 and 33 Kv. SUBSTATIONS
Full description and price on request.

A complete stock of transformers 1 to 1000 kva. Modern methods make our repair service second to none. Special service on breakdown jobs.

All transformers guaranteed for one year.
Write for Catalog, No. 124-E.

The Electric Service Company, Inc.
"America's Used Transformer Clearing House"
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PIPE

Rethreaded, reconditioned, guaranteed, suitable for all practical purposes, furnished with new threads and couplings, 400,000 feet in all sizes from 24" to ¾".

Also large stock of spiral pipe, sizes 7", 10", 12", 14", 20", and 24".
Large stock of valves and fittings, screwed and flanged. Can make attractive prices.

MARINE METAL & SUPPLY CO.
167 South St., New York City



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New and Used

SOLD, BOUGHT, REPURCHASED

Stocks at Principal Points throughout the Country for prompt shipment. We buy Piling located anywhere.

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Houston San Francisco Seattle

FOR SALE

Surplus Construction Equipment

1½ yd. Steam Dipper Dredge, barges, and other floating equipment. Gas and Diesel combination shovels and Draglines from ¼ to 2 yard capacities.

Tractors, Trailers, Graders, Air Compressors and other miscellaneous construction equipment.

Information and prices upon request.

DIXIE ROAD BUILDERS, INC.

832 N. W. 12th Ct., Miami, Florida

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MONDAY AT 10 A. M.

Have your copy in our hands as far before that time as possible to insure proper handling and classification.

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when feasible

MANUFACTURERS RECORD
Baltimore, Md.

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1—20 ton Insley Guyed Derrick, 115' steel latticed mast, 100' steel latticed boom, supported with 8—1¼" guy wires, 16' bull wheel, complete with 1—Wheland separate swinging engine and 1—9x10" Lidgerwood double cylinder, 3-drum Hoisting Engine, complete with all blocks and cable necessary for operation. Derrick bought new, used one year.

500 tons 35 and 40 lb. Relaying Rail complete with splices.

200 tons 30 lb. Relaying Rail complete with splices.

1 Gasoline propelled lumber carrier, 10,000 lbs. capacity.

T. G. ADAMS MCHRY. CO.

220 W. Bay St., Savannah, Ga.
P. O. Box 1597

50 TONS 100 LB. RELAYING RAILS

150 TONS 80 LB. RELAYING RAILS

HENRY LEVIS & COMPANY
Commercial Trust Bldg. Philadelphia

GASOLINE LOCOMOTIVES FOR SALE—At Half Price

Three new 8 ton Whitcomb gasoline locomotives, narrow gauge, can be changed to standard gauge. These locomotives are new, unused and are in absolutely perfect condition.

W. M. SMITH & CO.
Birmingham, Alabama

No. 1½ American Plain Miller, excellent. No use to pay top prices for new Machinery, etc., when you can save perhaps ½ or more on Good Used.

ZELNICKER IN ST. LOUIS

33 years in Rail, Constructors & Railroad Equipment, Steel Piling, Tanks, Pipe, Oil Engines. Our 422d Bulletin Now Ready and Free

Shovels or Cranes

FOR SALE

1—Factory rebuilt Lima 1¼ cu. yd. capacity. This machine can be equipped with either shovel, clamshell, dragline or drag shovel attachments. Very reasonably priced. Carries new machine guarantee. Located at New York.

1—Gas-Air Erie shovel 1 yd. capacity, A-1 condition. Ready for service. Located Richmond, Va.

Marion No. 32 Electric Shovel, 1¼ cu. yd.; 50 hp. G. E. Motor; 3 phase, 60 cycle, 440 v. Splendid condition. Located New York City.

Complete Shovel Attachment for Type "O" Thew. Also, attachment for Type B and B-2 Eries located in New Jersey. Decided bargains.

P & H 1¼ yd. gas shovel. Excellent condition, very attractive price. Located South Kearny, N. J.

1—Linn Tractor, 6-yd. capacity, with Waukesha Motor. Machine in very good condition. Priced to sell quickly. Located New York State.

We have both Steam and Gasoline Excavators ranging from ½ to 1½ cu. yd. capacity in various parts of the country that will be sold at extremely low prices or leased with leased payments made applying on purchase price.

LIMA EXCAVATOR SALES AGENCY

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Lima, O., Office: Warehouse.
Lima Trust Bldg. 317 Frelinghuysen
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Wire or phone at our expense.

RELAYING RAILS — SWITCHES TRACK MATERIAL

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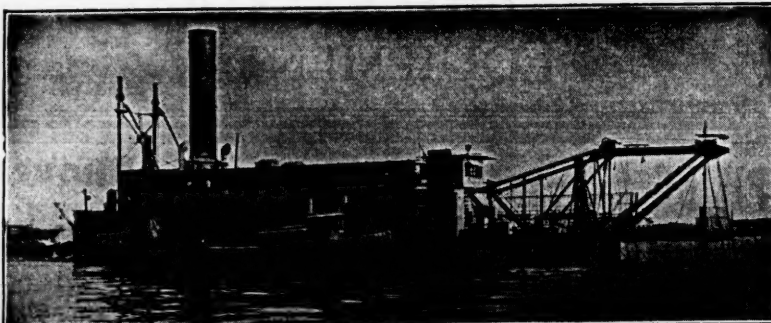
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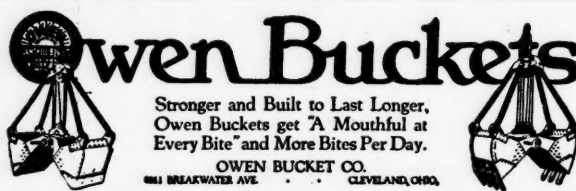
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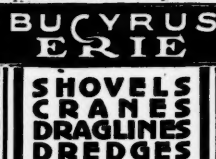
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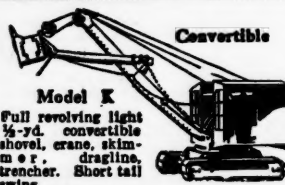
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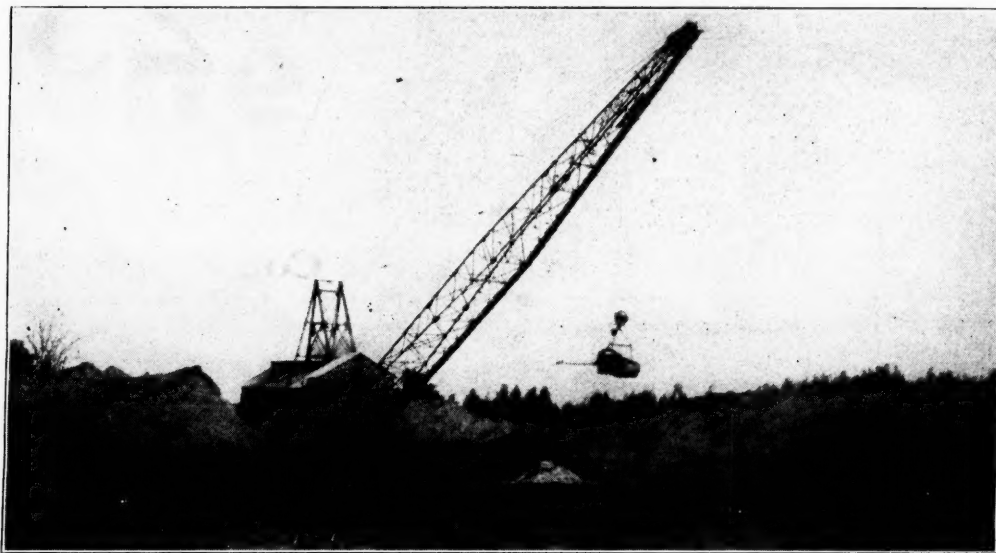
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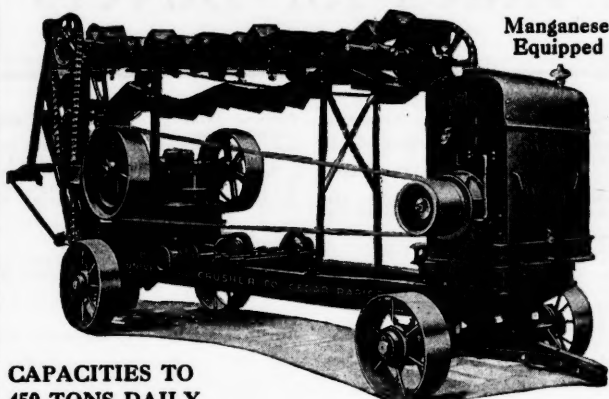
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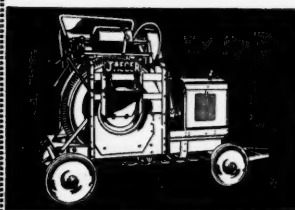
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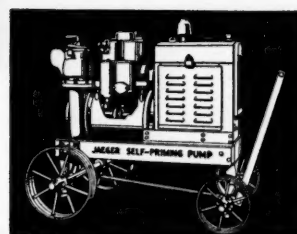
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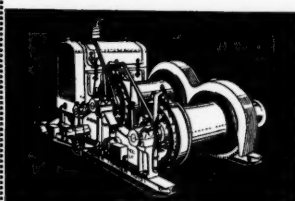
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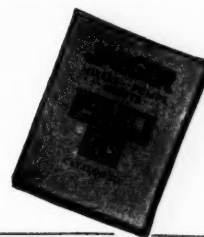


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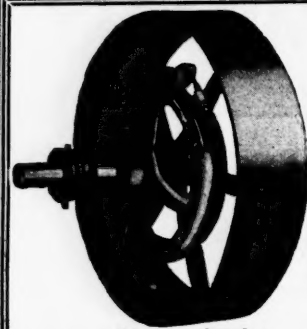
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Easton Car & Construction Co., Easton, Pa.

DUST-PROOFING (Concrete.)
Sonnenborn Sons, Inc., L., New York.

DYESTUFFS.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

DYNAMITE (Industrial and Agricultural.)
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

ECONOMIZERS (Fuel.)
Babcock & Wilcox Co., New York.

ELECTRICAL Instruments and Supplies.
Adam Electric Co., Frank, St. Louis.
General Electric Co., Schenectady, N. Y.
Western Electric Co., New York City.

—Machinery (Generators, Motors, etc., New.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Century Electric Co., St. Louis, Mo.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Rockford Power Machy. Co., Rockford, Ill.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

—Machinery (Generators, Motors, etc., Used.)
Delta Equipment Co., Philadelphia, Pa.
Electric Service Co., Cincinnati, Ohio.
General Electric Co., Schenectady, N. Y.
Nussbaum & Co., V. M., Ft. Wayne, Ind.
O'Brien Machinery Co., The, Phila., Pa.
Randle Machinery Co., The, Cincinnati, O.
Rockford Power Machy. Co., Rockford, Ill.

ELECTRIC LIGHTING.
General Electric Vapor Lamp Co., Hoboken, N. J.

ELECTRIC SHOVELS (See Shovels.)

ELEVATOR Cables.
Leschen & Sons Rope Co., A., St. Louis.

ELEVATORS (Electric.)
American Elevator & Machine Co., Inc., Louisville, Ky.
Millner Co., St. Louis, Mo.

—(Hand and Belt Power.)
American Elevator & Machine Co., Inc., Louisville, Ky.
Millner Co., St. Louis, Mo.

—(Hydraulic.)
American Elevator & Machine Co., Inc., Louisville, Ky.

ENGINEERS (Airports.)

International Derrick & Equipment Co., Columbus, Ohio.
Lockwood Greene Engrs., Inc., New York.
MacElwhe & Crandall, Inc., Cambridge, Mass.
Shaw Co., Russell B., St. Louis, Mo.

(Appraisal.)

Fay, Spofford & Thorndike, Boston, Mass.
Ford, Bacon & Davis, Inc., New York.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
May, Inc., Geo. S., Chicago, Ill.
Pender, W. R., Houston, Texas.
Sanderson & Porter, New York, N. Y.
Wadleigh & Bailey, Washington, D. C.
White Engineering Corp., J. G., New York.
Whitman, Requardt & Smith, Balto., Md.
Wiedeman & Singleton, Inc., Atlanta.

(Aviation.)

Shaw Co., Russell B., St. Louis, Mo.

(Bridge.)

Atlantic Bridge Co., Greensboro, N. C.
Billingsley, James W., New Orleans, La.
Fay, Spofford & Thorndike, Boston, Mass.
Freeland, Roberts & Co., Nashville, Tenn.
Gardner & Howe, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
Hardaway Contracting Co., Columbus, Ga.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
Southern Erectors, Inc., Tampa, Fla.
Steel & Leiby, Knoxville, Tenn.
Turner, C. A. P., Minneapolis, Minn.
Virginia Bridge & Iron Co., Roanoke, Va.
Wheeler, Walter H., Minneapolis, Minn.
Whitman, Requardt & Smith, Balto., Md.

(Chemical.)

Barrow-Agee Laboratories, Memphis, Tenn.
Dow & Smith, New York, N. Y.
Moss, Jr., W. Wade, Columbus, Ga.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.
Southern Products Corp., New Orleans.

(Civil.)

Airmap Corp. of Amer., Brooklyn, N. Y.
Charlton & Davis, Ft. Lauderdale, Fla.
Fuller & McClintock, New York, N. Y.
Gardner & Howe, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
Harrub Engr. Co., C. N., Nashville, Tenn.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
Hills Co., George B., Jacksonville, Fla.
MacElwhe & Crandall, Inc., Cambridge, Mass.
Main, Inc., Chas. T., Boston, Mass.
Spoon & Lewis, Greensboro, N. C.
Steel & Leiby, Knoxville, Tenn.
White Engineering Corp., J. G., New York.
Whitman, Requardt & Smith, Balto., Md.

(Consulting.)

Airmap Corp. of Amer., Brooklyn, N. Y.
Charlton & Davis, Ft. Lauderdale, Fla.
Converse & Co., J. B., Mobile, Ala.
Cramer, Robert, Milwaukee, Wis.
Engineering Service Corp., Houston, Tex.
Harza Engineering Co., Chicago.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Pender, W. R., Houston, Texas.
Smith, Elroy G., Augusta, Ga.
Stillman & Van Sice, New York, N. Y.
Wadleigh & Bailey, Washington, D. C.
White Engineering Corp., J. G., New York.
Whitman, Requardt & Smith, Balto., Md.
Wiedeman & Singleton, Inc., Atlanta, Ga.

(Cost.)

May, Inc., Geo. S., Chicago, Ill.

(Dams.)

Alpaugh & Sons, Chas. W., Manassas, Va.
Byllesby Engineering and Management Corp., Chicago, Ill.
Gardner & Howe, Memphis, Tenn.
Hardaway Contracting Co., Columbus, Ga.
Harza Engineering Co., Chicago.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
Lee, William S., Charlotte, N. C.
Main, Inc., Chas. T., Boston, Mass.
Sirrline & Co., J. E., Greenville, S. C.
Tucker & Laxton, Charlotte, N. C.
Wheeler, Walter H., Minneapolis, Minn.
White Engineering Corp., J. G., New York.

(Drainage and Irrigation.)

Cramer, Robert, Milwaukee, Wis.
Ford, Bacon & Davis, Inc., New York.
Fuller & McClintock, New York, N. Y.
Hills Co., George B., Jacksonville, Fla.
Huey, S. E., Monroe, La.

(Efficiency.)

Ernst & Ernst, New York, N. Y.
Whitman, Requardt & Smith, Balto., Md.

(Electrical.)

Engineering Service Corp., Houston, Tex.
Hoosier Engineering Co., Chicago, Ill.
Lee, William S., Charlotte, N. C.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
Tucker & Laxton, Charlotte, N. C.
Webb Electric Co., Anderson, S. C.
White Co., Gilbert C., Durham, N. C.
Wiley & Wilson, Lynchburg, Va.

(Electric-Light and Power Plants.)

Byllesby Engineering and Management Corp., Chicago, Ill.

Cramer, Robert, Milwaukee, Wis.
Ford, Bacon & Davis, Inc., New York.
Lee, William S., Charlotte, N. C.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
Tucker & Laxton, Charlotte, N. C.
White Engineering Corp., J. G., New York.
White Co., Gilbert C., Durham, N. C.

(Flood Control.)

Harza Engineering Co., Chicago.

(Gas.)

Byllesby Engineering and Management Corp., Chicago, Ill.
Ford, Bacon & Davis, Inc., New York.
Huey, S. E., Monroe, La.

(Geological.)

De Kalb, Courtenay, New York City.
Froehling & Robertson, Richmond, Va.
Moss, Jr., W. Wade, Columbus, Ga.
Wadleigh & Bailey, Washington, D. C.
Withers, R. S., Jackson, Miss.

(Harbor Improvements.)

Billingsley, James W., New Orleans, La.
Engineering Service Corp., Houston, Tex.
Fay, Spofford & Thorndike, Boston, Mass.

(Heating.)

Pender, W. R., Houston, Texas.
Wiley & Wilson, Lynchburg, Va.

(Hydraulic.)

Alpaugh & Sons, Chas. W., Manassas, Va.
Fuller & McClintock, New York, N. Y.
Harza Engineering Co., Chicago.
Main, Inc., Chas. T., Boston, Mass.
Whitman, Requardt & Smith, Balto., Md.

(Hydro-electric.)

Alpaugh & Sons, Chas. W., Manassas, Va.
Byllesby Engineering and Management Corp., Chicago, Ill.
Harza Engineering Co., Chicago.
Lee, William S., Charlotte, N. C.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
Sirrline & Co., J. E., Greenville, S. C.
Tucker & Laxton, Charlotte, N. C.
White Engineering Corp., J. G., New York.
Whitman, Requardt & Smith, Balto., Md.

(Ice and Refrigerating.)

Engineering Service Corp., Houston, Tex.

(Industrial Plants.)

Billingsley, James W., New Orleans, La.
Consoer, Older & Quinlan, Inc., Chicago.
Converse & Co., J. B., Mobile, Ala.
Fay, Spofford & Thorndike, Boston, Mass.
Gardner & Howe, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
Hills Co., George B., Jacksonville, Fla.
International Derrick & Equipment Co., Columbus, Ohio.
Lockwood Greene Engrs., Inc., New York.
MacElwhe & Crandall, Inc., Cambridge, Mass.

Main, Inc., Chas. T., Boston, Mass.
Preacher & Co., Inc., G. Lloyd, Atlanta.
Sanderson & Porter, New York, N. Y.
Sirrline & Co., J. E., Greenville, S. C.
Smith, Elroy G., Augusta, Ga.
Turner, C. A. P., Minneapolis, Minn.

(Industrial Survey.)

Converse & Co., J. B., Mobile, Ala.
Lockwood Greene Engrs., Inc., New York.
Wadleigh & Bailey, Washington, D. C.

(Inspection and Tests.)

Barrow-Agee Laboratories, Memphis, Tenn.
Conard, William B., Burlington, N. J.
Cramer, Robert, Milwaukee, Wis.
Dow & Smith, New York, N. Y.
Froehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
Moss, Jr., W. Wade, Columbus, Ga.
Pender, W. R., Houston, Texas.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.
Southwestern Laboratories, Ft. Worth, Tex.

(Lighting.)

Byllesby Engineering and Management Corp., Chicago, Ill.
Ford, Bacon & Davis, Inc., New York.
General Electric Vapor Lamp Co., Hoboken, N. J.
Wiley & Wilson, Lynchburg, Va.

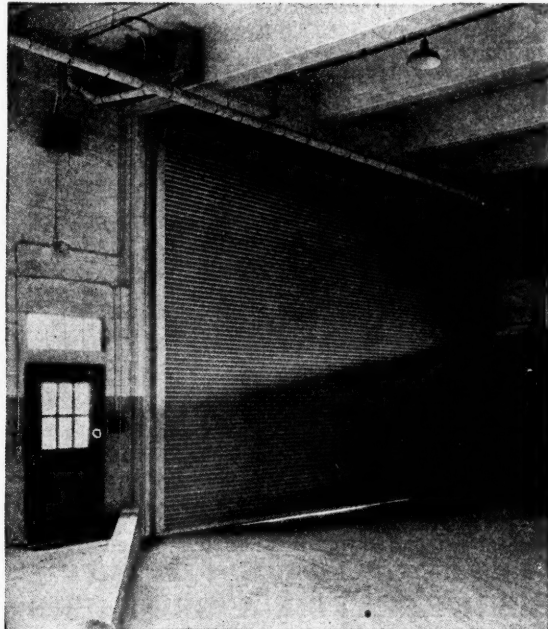
(Mechanical.)

Charlton & Davis, Ft. Lauderdale, Fla.
Engineering Service Corp., Houston, Tex.
Lee, William S., Charlotte, N. C.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Meigs, Bassett & Slaughter, Phila., Pa.
Pender, W. R., Houston, Texas.
Sanderson & Porter, New York, N. Y.
Wiley & Wilson, Lynchburg, Va.

(Mining. See Engineers, Geological.)**(Municipal.)**

Billingsley, James W., New Orleans, La.
Consoer, Older & Quinlan, Inc., Chicago.
Dow & Smith, New York, N. Y.
Harrub Engr. Co., C. N., Nashville, Tenn.
Hills Co., George B., Jacksonville, Fla.
Huey, S. E., Monroe, La.
Knowles, Inc., Morris, Pittsburgh, Pa.
McCrary Co., The J. B., Atlanta, Ga.
Spoon & Lewis, Greensboro, N. C.
White Co., Gilbert C., Durham, N. C.

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Freeland, Roberts & Co., Nashville, Tenn.
Harrub Engr. Co., C. N., Nashville, Tenn.
Spoon & Lewis, Greensboro, N. C.
White Co., Gilbert C., Durham, N. C.

—(Printing and Newspaper Plants.)

Lockwood Greene Engrs., Inc., New York.

—(Public Service Properties.)

Bylesby Engineering & Management Corp., Chicago, Ill.
Ford, Bacon & Davis, Inc., New York.
Fuller & McClintock, New York, N. Y.
Knowles, Inc., Morris, Pittsburgh, Pa.
Main, Inc., Chas. T., Boston, Mass.
Pender, W. R., Houston, Texas.
Sanderson & Porter, New York, N. Y.
White Engineering Corp., J. G., New York.

—(Railroad.)

Huey, S. E., Monroe, La.

—(Reinforced Concrete Bridges, Buildings, etc.)

Atlantic Bridge Co., Greensboro, N. C.
Ray, Spofford & Thorndike, Boston, Mass.
Freeland, Roberts & Co., Nashville, Tenn.
Gardner & Howe, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Steel & Leiby, Knoxville, Tenn.
Tucker & Laxton, Charlotte, N. C.
Turner, C. A. P., Minneapolis, Minn.
Wheeler, Walter H., Minneapolis, Minn.

—(Sales Analysis.)

May, Inc., Geo. S., Chicago, Ill.

—(Sanitary.)

Cramer, Robert, Milwaukee, Wis.
Hansa Engineering Co., Chicago.
Whitman, Requaardt & Smith, Balto., Md.

—(Sewage Disposal Plants.)

Cramer, Robert, Milwaukee, Wis.
Fuller & McClintock, New York, N. Y.
McCrary Co., The, J. B., Atlanta, Ga.
Whitman, Requaardt & Smith, Balto., Md.
Wiedeman & Singleton, Inc., Atlanta.

—(Sewerage and Waterworks.)

Conard, William E., Burlington, N. J.
Consoer, Older & Quinlan, Inc., Chicago.
Ford, Bacon & Davis, Inc., New York.
Fuller & McClintock, New York, N. Y.
Hardaway Contracting Co., Columbus, Ga.
Harrub Engr. Co., C. N., Nashville, Tenn.
Hills Co., George B., Jacksonville, Fla.
Knowles, Inc., Morris, Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Spoon & Lewis, Greensboro, N. C.
Tucker & Laxton, Charlotte, N. C.
White Co., Gilbert C., Durham, N. C.
White Engineering Corp., J. G., New York.
Whitman, Requaardt & Smith, Balto., Md.
Wiedeman & Singleton, Inc., Atlanta, Ga.

—(Structural.)

Freeland, Roberts & Co., Nashville, Tenn.
Hedrick, Inc., Ira G., Hot Springs Nat'l Park, Ark.
Hills Company, Geo. B., Jacksonville, Fla.
Huey, S. E., Monroe, La.
Lockwood Greene Engrs., Inc., New York.
Southern Erectors, Inc., Tampa, Fla.
Turner, C. A. P., Minneapolis, Minn.
Virginia Bridge & Iron Co., Roanoke, Va.
Whitman, Requaardt & Smith, Balto., Md.

—(Textile Mills.)

Lockwood Greene, Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Sirrline & Co., J. E., Greenville, S. C.

—(Transmission Lines.)

Hosier Engineering Co., Chicago, Ill.

—(Ventilating and Heating.)

Wiley & Wilson, Lynchburg, Va.

—(Water Supply.)

Whitman, Requaardt & Smith, Balto., Md.

ENGINES (Compressed Air.)

Dake Engine Co., Grand Haven, Mich.

—(Diesel Type.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Gas and Gasoline.)

Novo Engine Co., Lansing, Mich.
Sterling Engine Co., Buffalo, N. Y.

—(Hoisting.)

Clyde Iron Works Sales Co., Duluth, Minn.

—(Marine.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Oil.)

Ingersoll-Rand Co., New York, N. Y.
Continental Gin Co., Birmingham, Ala.

—(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Cole Mfg. Co., E. D., Newnan, Ga.
Leonard Iron Works & Supply Co., Augusta, Ga.
Schaffeld's Sons Co., J. S., Macon, Ga.

ENVELOPES.

Young & Seldon Co., Baltimore, Md.

ESTIMATORS (Building & Construction.)

Martin, Joe B., Charlotte, N. C.

EXCAVATING MACHINERY.

Bay City Shovel, Inc., Bay City, Mich.
Bucyrus-Erie Co., Erie, Penna.
Clyde Iron Works Sales Co., Duluth, Minn.
Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland.
Monaghan Mfg. Corp., Chicago, Ill.
National Equipment Corp. (Koehring, Insley, Parsons), Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Owen Bucket Co., The, Cleveland, Ohio.
Thew Shovel Co., The, Lorain, Ohio.
Universal Power Shovel Co., Milwaukee, Wis.

EXCAVATORS (Clamshell and Orange Peel.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., Lorain, Ohio.

—(Dragline. See Dragline Excavators.)

—(Trench.)

Harber-Greene Co., Aurora, Ill.
Bay City Shovel, Inc., Bay City, Mich.
Buckeye Traction Ditcher Co., Findlay, Ohio.
Bucyrus-Erie Co., Erie, Penna.
Harnischfeger Corp., Milwaukee, Wis.
Monaghan Mfg. Corp., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Universal Power Shovel Co., Milwaukee, Wis.

EXPANSION JOINTS (Road and Street.)

Carey Co., Philip, Lockland, Cincinnati, Ohio.
Servicised Products Corp., Chicago, Ill.

EXPLOSIVES.

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

FACTORY Management Systems.

Ernst & Ernst, New York, N. Y.

FEED-WATER HEATERS and Purifiers.

American Water Softener Co., Phila., Pa.

FELT (Building Sheathing.)

Barrett Co., The, New York, N. Y.

FENCE POSTS (Crossed.)

Ayer & Lord Tie Co., Chicago, Ill.

FENCING Entrance Gates (Iron, Steel and Wire.)

American Steel and Wire Co., Balto., Md.
Anchor Post Fence Co., Baltimore, Md.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.

—(Field and Industrial, Wire Woven.)

American Steel and Wire Co., Balto., Md.
Anchor Post Fence Co., Baltimore, Md.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.

FERTILIZER MACHINERY.

Raymond Bros., Impact Pulv. Co., Chicago

FILTER (For Domestic and Industrial Purposes.)

American Water Softener Co., Phila., Pa.
Bacharach & Co., E. W., Kansas City, Mo.
International Filter Co., Chicago, Ill.
Roberts Filter Mfg. Co., Darby (Phila.), Pa.

—Cloth.

Newark Wire Cloth Co., Newark, N. J.

FINANCING.

Electric Bond & Share Co., New York
Garraway & Co., S. G., Chicago.
Gay & Co., W. O., New York, N. Y.

FIRE CLAY.

North American Refractories Co., Cleveland, Ohio.

FIRE EXTINGUISHERS.

Myers & Bro. Co., The F. E., Ashland, O.

FIREPROOF Building Material.

Bannon Pipe Co., Louisville, Ky.

—Doors and Shutters.
Kinneer Mfg. Co., The, Columbus, Ohio.
Wilson Corp., The J. G., New York City.

FITTINGS (Wire Rope.)
Leschen & Sons Rope Co., A., St. Louis.
Roebeling's Sons Co., John A., Trenton, N. J.

FLANGES (Iron and Steel.)
Amer. Cast Iron Pipe Co., Birmingham
Dart Mfg. Co., E. M., Providence, R. I.
National Cast Iron Pipe Co., Birmingham, Ala.
Taylor Forge & Pipe Wks., Chicago, Ill.
U. S. Pipe & Foundry Co., Burlington, N. J.

—(Swivel.)
Merco Nordstrom Valve Company, San Francisco, Cal.

—and Flanged Fittings.
Grinnell Co., Inc., Providence, R. I.

FLOOR (Asphalt Mastic.)
Harber Asphalt Co., Philadelphia, Pa.

—(Asphalt Plank.)
Servicised Products Corp., Chicago, Ill.

—(Cork Composition.)
Congoleum-Nairn, Inc., Kearny, N. J.

—(Hardwood, Maple, Oak.)
Kirby Lumber Co., Houston, Tex.
Nashville Hardwood Flooring Co., Nashville, Tenn.

—(Linoleum.)
Congoleum-Nairn, Inc., Kearny, N. J.

—(Northern Hard Maple.)
Holt Hardwood Co., Oconto, Wis.

—(Open Steel.)
Blaw-Knox Co., Pittsburgh, Pa.
Irving Iron Works Co., Long Is. City, N. Y.
Kerlow Steel Flooring Co., Jersey City, N. J.

—Covering.
Congoleum-Nairn, Inc., Kearny, N. J.

—Hardner (Concrete.)
Sonneborn Sons, Inc., L., New York.

—Plates and Stair Treads.
Central Iron & Steel Co., Harrisburg, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—Steel (For Concrete Culverts, Roads, Streets.)
Blaw-Knox Co., Pittsburgh, Pa.

—Wax.
Congoleum-Nairn, Inc., Kearny, N. J.

FLUSH-TANK SIPHONS.
Pacific Flush-Tank Co., New York, N. Y.

FORM CLAMPS.
M & M Clamp Co., Minneapolis, Minn.

FORMS, Steel (For Concrete Culverts, Roads, Streets, Curbs, Sidewalks, Tiles.)
Blaw-Knox Co., Pittsburgh, Pa.

FOUNDRIES and Machine Shops.
Deemer Steel Casting Co., New Castle, Del.
General Machine Works, York, Pa.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
Goldens' Fdry. & Mch. Co., Columbus, Ga.
Lombard Iron Works & Supply Co., Augusta, Ga.
Mountain State Steel Foundries, Parkersburg, W. Va.
Richmond Foundry & Mfg. Co., Richmond, Va.

FOUNDRY Equipment and Supplies.
Chain Belt Co., Milwaukee, Wis.
Hill & Griffith Co., Cincinnati, O.

—Facings (Talc and Soap-stone.)
Hill & Griffith Co., Cincinnati, O.

FURNACE LININGS.
North American Refractories Co., Cleveland, Ohio.

FURNACES (Industrial.)
Combustion Engr. Corp., New York City.

—(Water-Cooled.)
Combustion Engr. Corp., New York City.
Fuller Lehigh Co., Fullerton, Pa.

GALVANIZED Products.
Birmingham Galvanizing Co., Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
International Derrick & Equipment Co., Columbus, Ohio.

—Steel and Iron.
American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Granite City Steel Co., Granite City, Ill.
Superior Sheet Steel Co., Canton, Ohio.

GALVANIZING (Cadmium Plating.)
Birmingham Galvanizing Co., Birmingham, Ala.

—(Hot Dip.)
Bessemer Galvanizing Works, Birmingham, Ala.
Birmingham Galvanizing Co., Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
Newport News Shipbuilding & Drydock Co., Newport News, Va.

GARAGES (Metal.)
International Derrick & Equipment Co., Columbus, Ohio.

GAS HOLDERS.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta, Ga.

—Producers.
Gas-O-Flame Stove Works, Fort Deposit, Md.
Wood & Co., R. D., Philadelphia, Pa.

GASOLINE and KEROSENE.
Gulf Refining Co., Pittsburgh, Pa.

GASOLINE SHOVELS (See Shovels.)

GEARS.
DeLaval Steam Turbine Co., Trenton, N. J.
Earle Gear & Machine Co., Phila., Pa.
General Electric Co., Schenectady, N. Y.
Woods' Sons Co., T. B., Chambersburg, Pa.

—(Worm Reduction.)
DeLaval Steam Turbine Co., Trenton, N. J.

GENERATORS, MOTORS (New.)
Century Electric Co., St. Louis, Mo.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Used.)
O'Brien Machinery Co., Phila., Pa.
Randle Machinery Co., The, Cincinnati, O.

GEOLOGISTS. (See Engineers, Geological.)

GLASS (Art.)
Hires Turner Glass Co., Philadelphia, Pa.

—(Plate.)
Blue Ridge Glass Corp., Kingsport, Tenn.
Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Window.)
Blue Ridge Glass Corp., Kingsport, Tenn.
Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Wire.)
Blue Ridge Glass Corp., Kingsport, Tenn.
Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.

GRADERS (Elevating.)
Adams Co., J. D., Indianapolis, Ind.
Caterpillar Tractor Co., Peoria, Ill.

—(One Man Motor.)
Adams Co., J. D., Indianapolis, Ind.

—(Leaning Wheel Road.)
Adams Co., J. D., Indianapolis, Ind.

GRAPHITE.
Dixon Crucible Co., Jos., Jersey City, N. J.

GRATES and Grate Bars.
Schofield's Sons Co., J. S., Macon, Ga.

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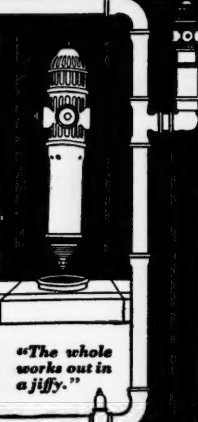
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Milwaukee Elec. Crane & Hoist Div. of
Harnischfeger Corp., Milwaukee, Wis.
Novo Engine Co., Lansing, Mich.
Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Gasoline.)
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Dake Engine Co., Grand Haven, Mich.
National Equipment Corp. (C. H. & E.
Division), Milwaukee, Wis.
Novo Engine Co., Lansing, Mich.
Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Steam.)
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Dake Engine Co., Grand Haven, Mich.
Street Bros. Mch. Wks., Chattanooga, Tenn.

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Southern Hotel, The, Baltimore, Md.

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Tomlin-Harris Machine Co., Cordale, Ga.

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—Materials.
General Electric Co., Schenectady, N. Y.
Okonite Co., New York, N. Y.

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Gay & Co., W. O., New York City.
Hanchett Bond Co., Inc., The, Chicago, Ill.
Mercantile Trust Co., Baltimore, Md.
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Provident Savings Bank & Trust Co.,
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Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—(Ingot, For Culverts, etc.)
American Rolling Mill Co., Middletown, O.

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JOINTS (Pipe.)
Leadite Co., The, Philadelphia, Pa.

KETTLES (Pavers and Roofers.)
Honhorst Co., Jos., Cincinnati, O.

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Myers & Bro. Co., The, F. E., Ashland, O.
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Lee Clay Products Co., Clearfield, Ky.
North Amer. Refractories Co., Cleveland.
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Northwest Engineering Co., Chicago, Ill.

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Porter Co., H. K., Pittsburgh, Pa.
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Porter Co., H. K., Pittsburgh, Pa.
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LUBRICATORS (Force Feed.)
Lunkenheimer Co., The, Cincinnati, O.

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Kirby Lumber Co., Houston, Texas.
Nashville Hardwood Flooring Co., Nashville, Tenn.

—(Creosoted.)
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Amer. Creosoting Co., Inc., Louisville, Ky.
Ayer & Lord Tie Co., Inc., Chicago.
Eppinger & Russell Co., New York, N. Y.
Gulf States Creos. Co., Hattiesburg, Miss.
Savannah Creos. Co., Savannah, Ga.

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—(Zinc Meta Arsenite Treated.)
Curtin-Howe Corp., New York City.

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Milcor Steel Co., Milwaukee Wis.

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National Equipment Corp. (Koehring, T. L. Smith, Kwik-Mix), Milwaukee, Wis.

—(Asphalt.)
Erie Machine Shops, Erie, Pa.

—(Hot.)
Koehring Co., Milwaukee, Wis.

—(Mortar.)
Chain Belt Co., Milwaukee, Wis.
Jaeger Machine Co., Columbus, Ohio.

—(Plaster.)
Blystone Mfg. Co., Cambridge Springs, Pa.
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Dunning & Boschert Press Co., Syracuse, N. Y.
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Lunkenheimer Co., The, Cincinnati, O.

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Georgia Iron Works, Augusta, Ga.

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—Iron Work.
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Adam Electric Co., Frank, St. Louis.

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Kinnear Mfg. Co., The, Columbus, Ohio.

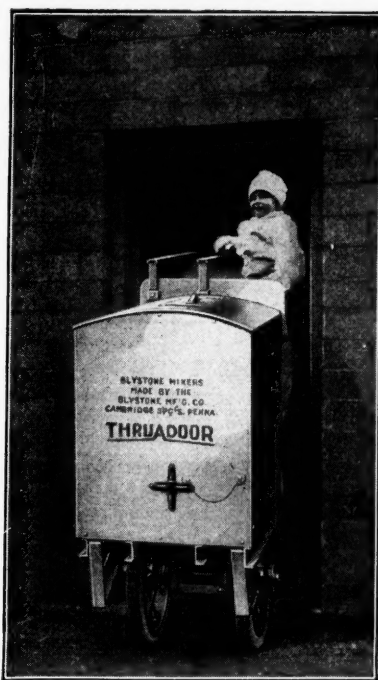
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Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
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Central Pipe & Supply Co., Charleston, W. Va.
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Greenspon's Sons Iron & Steel Co., St. Louis, Mo.
Hudson Pipe & Supply Co., Bayonne, N. J.
Maryland Pipe & Steel Corp., Baltimore, Md.

National Tube Co., Pittsburgh, Pa.

Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.

Power Piping Co., Pittsburgh, Pa.

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Cast Iron Pipe Research Assn., Chicago.
Central Foundry Co., The, New York, N. Y.
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National Cast Iron Pipe Co., Birmingham, Ala.
U. S. Pipe & Fdry. Co., Burlington, N. J.

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National Tube Co., Pittsburgh, Pa.

—(Iron and Steel.)

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

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—(Second-Hand.)

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Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.

Central Pipe & Sup. Co., Charleston, W. Va.

Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.

Greenspon's Sons Iron & Steel Co., St. Louis, Mo.

Hudson Pipe & Supply Co., Bayonne, N. J.

Marine Metal & Supply Co., New York.

Maryland Pipe & Steel Corp., Baltimore, Md.

—(Spiral Riveted.)

Abendroth & Root Mfg. Co., New York.

Taylor Forge & Pipe Wks., Chicago, Ill.

—(Steel.)

Bethlehem Steel Co., Bethlehem, Pa.

Chicago Bridge & Iron Wks., Atlanta, Ga.

National Tube Co., Pittsburgh, Pa.

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—(Welded.)

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—(Wrought Iron.)

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—Bending Machines.

American Pipe Bending Machine Co., Boston, Mass.

—Coatings.

Foster Co., Benjamin, Philadelphia, Pa.

—Fittings.

Amer. Cast Iron Pipe Co., Birmingham.

Georgia Iron Works, Augusta, Ga.

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—Unions and Joints.

Dart Mfg. Co., E. M., Providence, R. I.

—Systems (Industrial.)

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Barrett Co., The, New York, N. Y.

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Carnegie Steel Co., Pittsburgh, Pa.

Central Iron & Steel Co., Harrisburg, Pa.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Granite City Steel Co., Granite City, Ill.

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Brown Wood Preserving Co., Louisville, Ky.

Savannah Crescoting Co., Savannah, Ga.

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National Tube Co., Pittsburgh, Pa.

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—(Zinc Meta Arsenite Treated.)

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Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

Ripley Foundry & Machine Co., Ripley, O.

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Young & Selden Co., Baltimore, Md.

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Gas-O-Flame Stove Wks., Port Deposit, Md.
Wood & Co., E. D., Phila., Pa.

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Chain Belt Co., Milwaukee, Wis.
Cook, Inc., A. D., Lawrenceburg, Ind.
Fairbanks, Morse & Co., Chicago, Ill.
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.
International Derrick & Equipment Co., Columbus, Ohio.
Myers & Bro. Co., The F. E., Ashland, O.
National Equipment Corp., (C. H. & E. Division), Milwaukee, Wis.
Virginia Mch. & Well Co., Richmond, Va.

PUMPS (Air.)
Manistee Iron Works Co., Manistee, Mich.
—(Air Lift.)
Ingersoll-Rand Co., New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.

—(Boiler Feed.)
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.
DeLaval Steam Turbine Co., Trenton, N. J.
Erie Pump & Engine Wks., Medina, N. Y.
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.
Manistee Iron Works Co., Manistee, Mich.
Myers & Bro. Co., The F. E., Ashland, O.

—(Centrifugal.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Well Works, Aurora, Ill.
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.
DeLaval Steam Turbine Co., Trenton, N. J.
Erie Pump & Engine Wks., Medina, N. Y.
Fairbanks, Morse & Co., Chicago, Ill.
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.
Jaeger Machine Co., Columbus, Ohio.
La Hour Co., Elkhart, Ind.
Layne & Bowler, Inc., Memphis, Tenn.
Manistee Iron Works Co., Manistee, Mich.
Novo Engine Co., Lansing, Mich.

—(Contractors.)
Erie Pump & Engine Wks., Medina, N. Y.
Novo Engine Co., Lansing, Mich.

—(Deep Well.)
American Well Works, Aurora, Ill.
Cook, Inc., A. D., Lawrenceburg, Ind.
Layne & Bowler, Inc., Memphis, Tenn.
Novo Engine Co., Lansing, Mich.

—(Diaphragm.)
Novo Engine Co., Lansing, Mich.

—(Hydraulic.)
Dunning & Boshert Press Co., Inc., Syracuse, N. Y.

—(Power.)
American Well Works, Aurora, Ill.
Sterling Engine Co., Buffalo, N. Y.

—(Pulverized Coal.)
Fuller Lehigh Co., Fullerton, Pa.

—(Sand and Dredging.)
Erie Pump & Engine Wks., Medina, N. Y.
Georgia Iron Works, Augusta, Ga.

—(Steam.)
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.
Fairbanks, Morse & Co., Chicago, Ill.
Ingersoll-Rand Co. (A. S. Cameron Steam Works), New York, N. Y.

—(Vacuum.)
Ingersoll-Rand Co., New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.

—(Water Works.)
American Well Works, Aurora, Ill.
Layne & Bowler, Inc., Memphis, Tenn.
Manistee Iron Works Co., Manistee, Mich.

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Whitney Metal Tool Co., Rockford, Ill.

RACK RAKES.
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Williams Radiator Co., Los Angeles, Calif.

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Robinson & Orr, Pittsburgh, Pa.

—Equipment and Supplies (Used.)
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Smith & Co., W. M., Birmingham, Ala.
Southern Iron and Equip. Co., Atlanta.
Zelicker Supply Co., W. A., St. Louis.

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Model Land Company, Flagler System.
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Tennessee Central Railway, Nashville.

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Levis & Co., Henry, Philadelphia, Pa.
Perry, Buxton, Doane Co., Philadelphia.
Robinson & Orr, Pittsburgh, Pa.
Smith & Co., W. M., Birmingham, Ala.
Southern Iron and Equip. Co., Atlanta, Ga.
Sweet's Steel Co., Williamsport, Pa.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Zelicker Supply Co., W. A., St. Louis.

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Koppel Ind. Car & Equip. Co., Koppel, Pa.

—(Marine.)
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Connors Steel Co., Birmingham, Ala.
Dietrich Brothers, Baltimore, Md.
Gulf States Steel Co., Birmingham, Ala.
Knoxville Iron Co., Knoxville, Tenn.
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Byerson & Son, Inc., Jos. T., St. Louis and New York.
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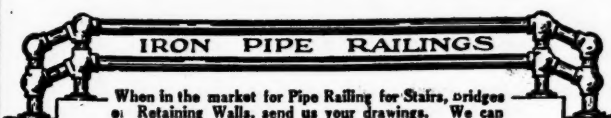
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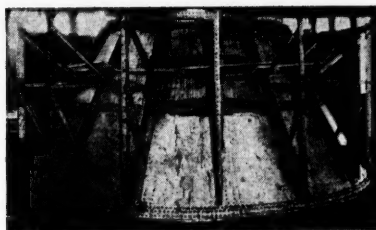
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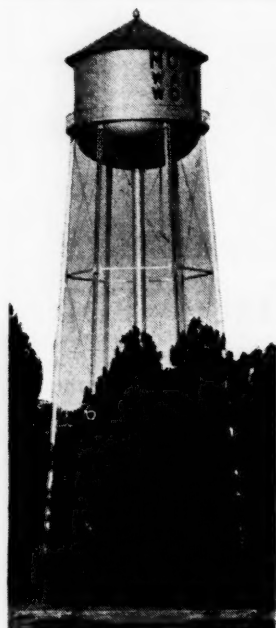
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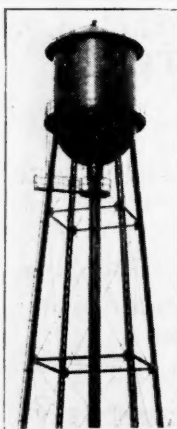
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Clark, Lloyd T., Southern Pines, N. C.

SWINGING ENGINES.

Dake Engine Co., Grand Haven, Mich.

SWITCHBOARDS, SWITCHES, ETC.

Adam Elec. Co., Frank, St. Louis.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pitts-
burgh, Pa.

SYSTEMS (Business.)

Ernst & Ernst, New York, N. Y.
May, Inc., Geo. S., Chicago, Ill.

TACKLE BLOCKS (For Wire and Manila Rope.)

Patterson Co., W. W., Pittsburgh.

TANKS (Air Compressor.)

Air-Tight Steel Tank Co., Pittsburgh, Pa.
Titusville Iron Works Co., Titusville, Pa.

—(Elevated Steel.)

Caldwell Co., Inc., W. E., Louisville, Ky.
Chattanooga Boiler & Tank Co., Chatta-
nooga, Tenn.
Chicago Bridge & Iron Wks., Atlanta, Ga.
Cole Mfg. Co., R. D., Newnan, Ga.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Elevated Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.

—(Iron and Steel.)

Air-Tight Steel Tank Co., Pittsburgh, Pa.
American Bridge Co., New York, N. Y.
Chattanooga Boiler & Tank Co., Chatta-
nooga, Tenn.
Chicago Bridge & Iron Wks., Atlanta, Ga.
Cole Mfg. Co., R. D., Newnan, Ga.
Downingtown Iron Works, Downingtown, Pa.
Hammond Iron Works, Warren, Pa.
Lancaster Iron Works, Inc., Lancaster, Pa.
Lombard Iron Works & Supply Co., Aug-
usta, Ga.
McClintic-Marshall Co., Pittsburgh, Pa.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
Titusville Iron Works Co., Titusville, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.
Westinghouse Traction Brake Co., Wil-
merding, Pa.

—(Seamless Steel.)

National Tube Co., Pittsburgh, Pa.

—(Storage, Oil, etc.)

Biggs Boiler Works, Akron, Ohio.
Birmingham Boiler & Engr. Co., Bir-
mingham, Ala.
Chattanooga Boiler & Tank Co., Chatta-
nooga, Tenn.
Chicago Bridge & Iron Wks., Atlanta, Ga.
Downingtown Iron Works, Downingtown, Pa.
Hammond Iron Works, Warren, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Titusville Iron Works Co., Titusville, Pa.

—(Welded.)

Welded Products Co. of La., Inc., New
Orleans, La.

—(Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.
Virginia Mch. & Well Co., Richmond, Va.

TAPE (Insulating.)

Okonite Co., New York, N. Y.

—(Measuring.)

Lufkin Rule Co., Saginaw, Mich.

TAX SPECIALISTS.

Ernst & Ernst, New York, N. Y.
Le Baron, E. T., Jacksonville, Fla.

TELEPHONE SERVICE.

American Telephone & Telegraph Co.

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Grasselli Chemical Co., Inc., Birmingham.

TILE (Cement Roofing.)

Federal-American Cement Tile Co., Chicago.

—(Cork Composition.)

Congoleum-Nalra, Inc., Kearny, N. J.

—(Cork Flooring.)

Congoleum-Nalra, Inc., Kearny, N. J.

—(Floor.)

Hood Co., B. Mifflin, Daisy, Tenn.

—(Roof.)

Hood Co., B. Mifflin, Daisy, Tenn.

—(Sewer.)

Lee Clay Products Co., Clearfield, Ky.

TIMBER (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.

TIN AND TERNE PLATES.

American Sheet & Tin Plate Co., Pitts-
burgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Granite City Steel Co., Granite City, Ill.
Youngstown Sheet & Tube Co., Youngs-
town, Ohio.

TOBACCO MACHINERY.

Ripley Foundry & Machine Co., Ripley, O.

TOOLS (Measuring.)

Lufkin Rule Co., Saginaw, Mich.

TORCHES (Blow.)

Wall Mfg. Supply Co., P., Pittsburgh, Pa.

—(Bombshell.)

Toledo Pressed Steel Co., Toledo, Ohio.

TOWERS (Electric Transmis- sion.)

American Bridge Co., New York, N. Y.
Bessemer Galvanizing Works, Birmingham.
International Derrick & Equipment Co.,
Columbus, Ohio.

—(Radio.)

Bessemer Galvanizing Works, Birmingham.
International Derrick & Equipment Co.,
Columbus, Ohio.

—(Steel and Wood.)

Chattanooga Boiler & Tank Co., Chatta-
nooga, Tenn.
Cole Mfg. Co., R. D., Newnan, Ga.

TRACK (Portable or Permanent.)

Equipment Corp. of America, Chicago, Ill.
Sweet's Steel Co., Williamsport, Pa.

—(Semi-Crawler.)

Moon Track Co., Chicago, Ill.

TRACTORS (Industrial.)

Atlas Car & Mfg. Co., The, Cleveland, O.
Caterpillar Tractor Co., Peoria, Ill.
Clark Tractor Co., Battle Creek, Mich.
Cleveland Tractor Co., Cleveland, Ohio.
International Harvester Co. of America,
Inc., Chicago, Ill.

—(Road.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Caterpillar Tractor Co., Peoria, Ill.
Cleveland Tractor Co., Cleveland, Ohio.

TRAILERS (Industrial.)

Easton Car & Construction Co., Easton, Pa.

TRAMWAYS (Aerial Wire Rope.)

American Steel & Wire Co., Balto., Md.
Leschen & Sons Rope Co., A., St. Louis.

TRANSFORMERS.

General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pitts-
burgh, Pa.

—(Used.)

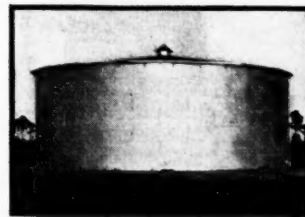
Electric Service Co., Cincinnati, O.

TRANSMISSION TOWERS (Gal- vanized.)

Bessemer Galvanizing Works, Birmingham.
International Derrick & Equipment Co.,
Columbus, Ohio.
McClintic-Marshall Co., Pittsburgh, Pa.

TRENCH MACHINERY. See
Excavators (Trench.)**TRESTLES (Wooden.)**
Patent Scaffolding Co., Chicago, Ill.**TRI-SODIUM PHOSPHATE.**
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Universal Crane Co., Lorain, O.**TRUCKS (Dry Kiln.)**
Moore Dry Kiln Co., Jacksonville, Fla.**—(Industrial.)**
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Lansing Co., Lansing, Mich.**—(Motor.)**
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American Pulley Co., Philadelphia, Pa.
Clark Tractor Co., Battle Creek, Mich.**TUBES (Boiler.)** See **Boiler Tubes.****TUBING (Seamless Steel.)**
National Tube Co., Pittsburgh, Pa.
Timken Rolling Bearing Co., Canton, O.**TURBINES (Hydraulic.)**
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Davis Foundry & Mach. Works, Rome, Ga.
Smith Co., S. Morgan, York, Pa.**—(Steam.)**
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DeLaval Steam Turbine Co., Trenton, N.J.
General Electric Co., Schenectady, N.Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.**TURNBUCKLES.**
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Grinnell Co., Inc., Providence, R. I.**—VALVES.**
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Lunkenheimer Co., The, Cincinnati, Ohio.
Merco Nordstrom Valve Co., San Francisco, Cal.
Mueller Co., Decatur, Ill.
Westinghouse Traction Brake Co., Wilmerding, Pa.**—(Acid Proof.)**
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Lunkenheimer Co., The, Cincinnati, Ohio.
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Roberts Filter Mfg. Co., Darby (Phila.), Pa.
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Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
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U. S. Pipe & Foundry Co., Burlington, N.J.
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Milcor Steel Co., Milwaukee, Wis.**—(Steel Pivoted, Screened.)**
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Ryerson & Son, Inc., Jos. T., St. Louis and New York.
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American Steel & Wire Co., Balto., Md.
Gulf States Steel Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, Ohio.**—(Fence.)**
Anchor Post Fence Co., Baltimore, Md.
Cyclone Fence Co., Waukegan, Ill.**—(Flat and Round.)**
American Steel & Wire Co., Balto., Md.
Roebbing's Sons Co., John A., Trenton, N.J.
Seneca Wire & Mfg. Co., Fostoria, O.**—(Galvanized and Annealed.)**
American Steel & Wire Co., Balto., Md.
Gulf States Steel Co., Birmingham, Ala.
Seneca Wire & Mfg. Co., Fostoria, Ohio.**—Cloth (Iron, Steel, Copper, Brass, etc.)**
Harrington & King Perf. Co., Chicago
Newark Wire Cloth Co., Newark, N.J.
Roebbing's Sons Co., John A., Trenton, N.J.**Seneca Wire & Mfg. Co., Fostoria, O.****—Goods.**
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Leschen & Sons Rope Co., A., St. Louis
Roebbing's Sons Co., John A., Trenton, N.J.**—Rope Clips.**
American Steel & Wire Co., Balto., Md.**—Stapling.**
Seneca Wire & Mfg. Co., Fostoria, O.**—(Telephone and Telegraph.)**
American Steel & Wire Co., Balto., Md.**—(Welding.)**
American Steel & Wire Co., Chicago, Ill.
Roebbing's Sons Co., John A., Trenton, N.J.
Seneca Wire & Mfg. Co., Fostoria, Ohio.**ZINC CHLORIDE.**
Grasselli Chemical Co., Inc., Birmingham**ZINC META ARSENITE (Wood Preservative.)**
Curtin-Howe Corp., New York City.
Gulf States Creos. Co., Hattiesburg, Miss.

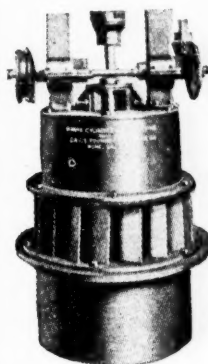
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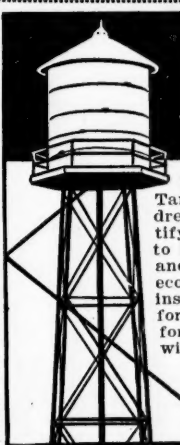
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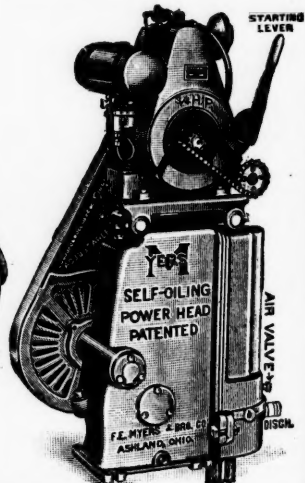
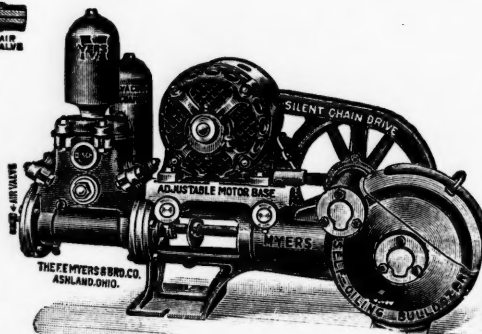
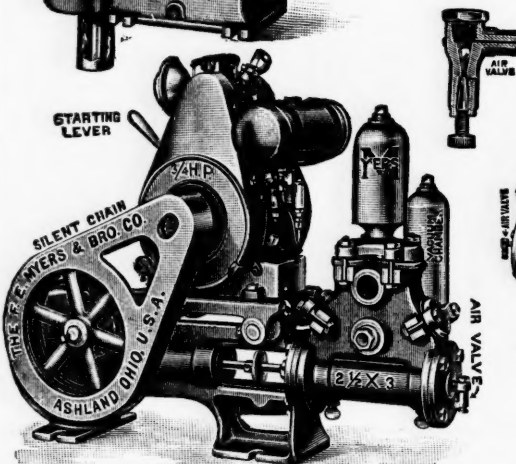
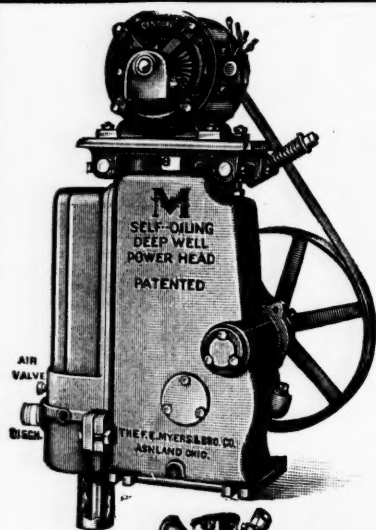


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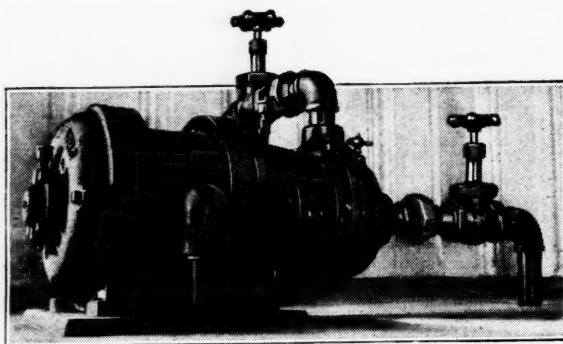
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Airmop Corp. of America	7
Air-Tight Steel Tank Co.	1
Alabama Power Co.	7
Albert & Davidson Pipe Corp.	7
Albert Pipe Supply Co.	7
Alco Products, Inc.	1
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Alpaugh & Sons, Chas. W.	2
Alpha Portland Cement Corp.	8
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American Cast Iron Pipe Co.	9
American Creosote Works Inc.	7
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American Elevator & Machine Co.	8
American Gas Association	1
American Institute of Steel Construction, Inc.	2
American Limestone Co.	8
American Pipe Bending Machine Co.	1
American Rolling Mill Co.	1
American Sheet & Tin Plate Co.	1
American Steel & Wire Co.	14
American Telephone & Telegraph Co.	9
American Water Softener Co.	15
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Anchor Post Fence Co.	2
Andrews Co., A. H.	8
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Armstrong Cork & Insulation Co.	8
Arundel Corporation	1
Associated Gas & Electric System	1
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Atlantic Creosoting Co.	9
Atlantic, Gulf & Pacific Co.	7
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Ayer & Lord Tis Co.	1

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Barber-Greene Co.	1
Barrett Co.	1
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Brown & Co.	1
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Fuller Lehigh Co.	20

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General Electric Vapor Lamp Co.	†
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Georgia Iron Works	100
Georgia Marble Co.	92
Georgia Power Co.	†
Georgia Sand & Gravel Co.	†
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Gulf States Steel Co.	12
Gunite Concrete & Constr. Co.	92
Gunite Construction Co.	†

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Harrington & King Perforating Co.	†
Harrub Engr. Co., C. N.	20
Harris Co., B. W. & Leo.	*
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J

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Koppel Industrial Car & Equip. Co.	†

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Lansing Co.	†
Law & Co., A. M.	†
Layne & Bowler, Inc.	†
Leadite Co.	26-65
Le Baron, E. T.	21
Lee Clay Products Co.	†
Lee, William S.	20
Leschen & Sons Rope Co., A.	26
Levis & Co., Henry	†
Lima Excavating Sales Agency.	77
Lockwood Greene Engrs., Inc.	22
Lombard Iron Works & Supply Co.	85
Lookout Boiler & Mfg. Co.	26
Louisville Cement Co.	†
Ludlow Valve Mfg. Co.	†
Lufkin Rule Co.	†
Lunkenheimer Co.	102

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MacEwee & Crandall, Inc.	20
Macon Concrete Roller Co.	†
Main, Inc. Chas. T.	20
Manhattan Perforated Metal Co.	83
Maniatee Iron Works Co.	100
Marine Metal & Supply Co.	71
Martin, Joe B.	21
Maryland Pipe & Steel Co.	76
May Inc., George S.	†
McClintic-Marshall Co.	†
McCrary Co., J. B.	21
Meigs, Bassett & Slaughter	†
Mercantile Trust Co.	†
Merchant & Evans Co.	88
Merco Nordstrom Valve Co.	7
Michaels Art Bronze Co.	7
Milburn Co., Alexander.	20
Milburn, Heister & Co.	20
Milcor Steel Co.	87
Millner Co.	88
Milwaukee Electric Crane & Hoist	†
Div. of Harnischfeger Corp.	†
Missouri-Kansas-Texas Lines.	23
Model Land Co. (Flagler System).	79
Monighan Mfg. Corp.	23
Moon Track Co.	†
Moore Dry Kiln Co.	83
Moss, Jr., W. Wade	21
Mott Core Drilling Co.	22
Mountain State Steel Foundries	†
Moyer Co., Tilghman	21
Mueller Co.	†
Mundt & Sons, Chas.	78
Myers & Bro. Co., F. E.	100
Myers & Sons, J. L.	21



"MAKE THOSE ENGINES LIGHTER."

...so they even hollow-drilled the bolts

"ELIMINATE all possible excess weight," was the order received by the engineers of a famous airplane engine manufacturer.

Weight *was* eliminated. They even drilled holes in the barrels of the bolts to make them lighter, reaching the minimum weight compatible with the necessary strength.

These hollow-drilled bolts, excellent examples of engineering skill, made the famous

engine lighter and thus contributed to greater efficiency. They were strong and they were light; made of a high-grade, special alloy steel. They were a distinct credit to the intelligence and craftsmanship of eminent airplane engine designers and machinists.

Cost was not a primary consideration. These bolts were expensive because of the high cost of drilling the hole vertically through the head and barrel of each bolt. The work was done slowly, carefully, in the engine company's own machine shop.

The bolts cost 64 cents apiece, and eleven of them were used to bolt every engine together.

ONE day, an R B & W salesman called at the airplane engine factory. He believed he might be able to save the company money on engine bolts, and took one of the 64-cent bolts to the R B & W Engineering Service Department.

After a consideration of the problem, the salesman was able to sell the engine makers a standard R B & W Bolt, without the expensive drilled hole, which possessed these outstanding advantages:

1. It weighed only half as much as the former drilled-barrel bolt.
2. It possessed greater strength than the drilled-barrel bolt.
3. It cost 4 cents, instead of 64 cents, a not unwelcome saving.

Since 1845 R B & W has been amassing specialized knowledge of bolt and nut usage and requirements in all branches of industry. If you have a bolt or nut problem, or think there is a possibility of improving your present practices, we probably have the answer already worked out for a similar problem elsewhere.

Executives, engineers, shop men and purchasing agents are invited to write us about their bolt and nut requirements. No obligation.

RUSSELL, BURDSALL & WARD BOLT & NUT CO.

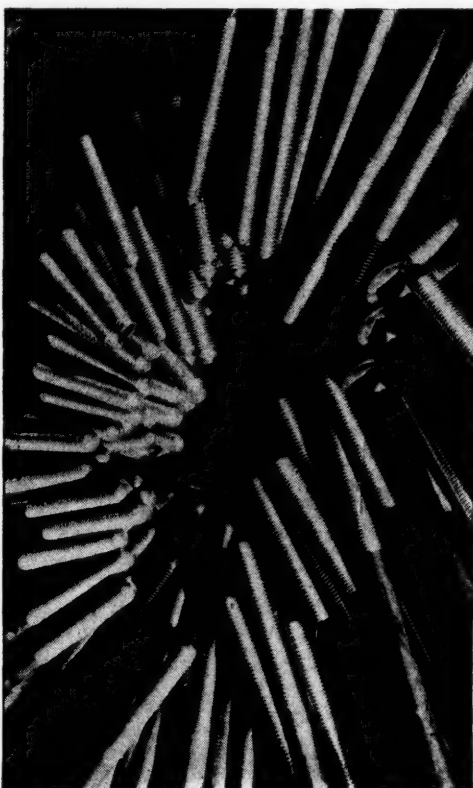
PORT CHESTER, N. Y.

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SALES OFFICES AT

Philadelphia Detroit Chicago San Francisco Los Angeles Seattle Portland, Ore.



More Net Profit—It Can Be
Had Now

WE venture a prediction. It is that after the nervous perspiration of 1930 has evaporated, and we look back at the year's net results, one thing will be clear: That the manufacturers who came through in the best condition were those who bought net profits in the form of savings in operating costs made possible by modern equipment.

When industry is coming along operating expenses are added and personnel is added and



FROM INDUSTRIAL ENGINEERING, DEC. 1930

"Timken Bearing Equipped" Points the Way

If a census of the manufacturers referred to in the above clipping could be taken, it is safe to say that the majority of them would be found to be operating a large amount of Timken Bearing Equipped machinery.

In fact so pronounced is the improvement on production—both as regards quality and quantity—the saving in production costs and the reduction of maintenance secured through the use of Timken Bearings, that machinery of any type hardly merits the term "modern" unless it is Timken Bearing Equipped.

A new period of intensive production is approaching, when the need for thoroughly modern equipment will be greater than at any previous time.

Manufacturers who are utilizing the temporary lull in demand to prepare for the days of strenuous activity ahead, will be the ones to enjoy the greatest benefits.

Now is the time—while you still have time—to check into your production facilities and weed out the weak spots. Now is the time to replace obsolescent, undependable equipment with modern Timken Bearing Equipped machinery. The future welfare of your business demands it. The Timken Roller Bearing Company, Canton, Ohio.

TIMKEN *Tapered Roller* BEARINGS

